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cc: Peter
Task: 5749

Graymont Western U.S., Inc.
Cricket Mountain Project, Utah

Summary of Cricket Mountain Quarry Operations and Surety Update

GRAYMONT

Graymont Western, U.S., Inc.
3950 South 700 East
Suite 301
Salt Lake City, Utah 84107

Component	Full Surety Acres	Full Surety Cost	Partial Surety Acres	Partial Surety Cost	Acres Difference	Cost Difference
Poison Mountain						
Quarries	22	$41,515	22	$41,515	0	$0
Overburden/Fines Piles	60.5	$116,440	60.5	$116,440	0	$0
Yards and Stockpiles	113.6	$192,246	113.6	$192,246	0	$0
Haul/Access Roads	13.8	$80,859	13.8	$80,859	0	$0
Miscellaneous	0	$83,365	0	$83,365	0	$0
Concrete Foundation Demolition	0	$2,809	0	$2,809	0	$0
Building Demolition and Disposal	0	$45,740	0	$45,740	0	$0
Poison Mountain Total	**209.9**	**$562,974**	**209.9**	**$562,974**	**0**	**$0**
Flat Iron						
Quarries	109.8	$204,811	109.8	$204,811	0	$0
Overburden/Fines Piles	107.8	$207,443	107.8	$207,443	0	$0
Yards and Stockpiles	13.3	$20,530	13.3	$20,530	0	$0
Haul/Access Roads	8.7	$37,104	8.7	$37,104	0	$0
Flat Iron Total	**239.6**	**$469,888**	**239.6**	**$469,888**	**0**	**$0**
Dolomite						
Quarries	157.4	$294,384	157.4	$294,384	0	$0
Overburden/Fines Piles	43.8	$95,560	43.8	$95,560	0	$0
Yards and Stockpiles	26.5	$43,566	26.5	$43,566	0	$0
Haul/Access Roads	7	$19,173	7	$19,173	0	$0
Miscellaneous	0	$535	0	$535	0	$0
Dolomite Total	**234.7**	**$453,218**	**234.7**	**$453,218**	**0**	**$0**
Allsop						
Quarries	254.7	$480,742	192.5	$365,529	62.2	$115,213
Overburden/Fines Piles	84.4	$52,770	84.4	$52,770	0	$0
Yards and Stockpiles	16.1	$4,924	16.1	$4,924	0	$0
Haul/Access Roads	9.5	$21,010	9.5	$21,010	0	$0
Miscellaneous	0	$2,082	0	$2,082	0	$0
Allsop Total	**364.7**	**$561,528**	**302.5**	**$446,315**	**62.2**	**$115,213**

Fingers						
Quarries	138.1	$260,875	138.1	$260,875	0	$0
Overburden/Fines Piles	69	$151,375	69	$151,375	0	$0
Yards and Stockpiles	6.6	$2,043	6.6	$2,043	0	$0
Haul/Access Roads	2	$5,073	2	$5,073	0	$0
Miscellaneous	0	$1,070	0	$1,070	0	$0
Fingers Total	**215.7**	**$420,436**	**215.7**	**$420,436**	**0**	**$0**
Big Sage						
Quarries	395.2	$568,753	127.1	$149,292	268.1	$419,461
Overburden/Fines Piles	119.4	$240,825	75.6	$153,002	43.8	$87,823
Yards and Stockpiles	79.3	$191,353	75.8	$191,353	3.5	$0
Haul/Access Roads	55.7	$261,920	38.4	$200,535	17.3	$61,385
Miscellaneous	0	$76,338	0	$76,338	0	$0
Concrete Foundation Demolition	0	$10,039	0	$0	0	$10,039
Building Demolition and Disposal	0	$116,293	0	$0	0	$116,293
Big Sage Total	**649.6**	**$1,465,521**	**316.9**	**$770,520**	**332.7**	**$695,001**
Roads						
Haul/Access Roads	9.9	$8,390	9.9	$8,390	0	$0
Roads Total	**9.9**	**$8,390**	**9.9**	**$8,390**	0	$0
Site Clean-up		**$39,048**		**$31,317**		$7,731
Mobilization/Demobilization		**$118,656**		**$118,656**		$0
Total Direct Costs		**$4,062,554**		**$3,281,714**		$780,840
Contractor Overhead and Profit		**$406,255**		**$328,171**		$78,084
Contingency		**$406,255**		**$328,171**		$78,084
Total with Indirect Costs		**$4,875,064**		**$3,938,057**		$937,007
Escalation (5 years)		**$999,386**		**$807,299**		$192,087
GRAND TOTAL	**1924.1**	**$5,874,450**	**1529.2**	**$4,745,356**	**394.9**	**$1,129,094**

Graymont Western U.S., Inc.
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Salt Lake City, Utah 84107

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1. INTRODUCTION AND GENERAL INFORMATION

The Cricket Mountain Mine is an existing limestone mining and processing operation located in west-central Utah. The Mine is owned and operated by Graymont Western U.S., Inc. (Graymont) and consists of limestone quarries, overburden piles, fines piles, haul roads, and facilities located on lands leased from the State of Utah, and on private lands owned by Graymont. The general location is shown on Figure 1. The Mine received approval of its Plan of Operations from the Warm Springs Field Office in Fillmore, Utah. A Notice of Intention (NOI) for the existing Project was approved by State of Utah, Division of Oil, Gas and Mining (UDOGM) on January 1, 1981 (M/027/006). Additional NOIs have been subsequently filed.

Mining on Utah state lands is permitted under the Utah Mined Land Reclamation Act of 1975, Title 40, Chapter 8 of the Utah Code Annotated as amended (Utah Reclamation Act). The Minerals Reclamation Rules (R647-1 through R647-5) are enforced by UDOGM.

The Cricket Mountain Mine provides limestone for commercial use. Limestone is mined, crushed, screened, and transported offsite via an existing road system.

1.1 Applicant Information

Graymont Western U.S., Inc.
3950 South 700 East
Suite 301
Salt Lake City, Utah 84107

Contact: ~~Michael R. Brown,~~ Robert M. Robison
Phone: (801) ~~716-2631~~ 716-2629
Fax: (801) 264-6874

1.2 File Number

The previously assigned UDOGM file number for the Cricket Mountain Mine is M/027/006. The latest approved revision to M/027/006 is dated ~~March 2009~~ January 2010.

1.3 Location of Activities

The Cricket Mountain Mine is located approximately 32 driving miles southwest of the city of Delta, in Millard County, Utah. The mine can be reached by traveling along existing and authorized access roads approximately six miles west of the Bloom railroad siding in the southeast corner of Section 36, Township 21 South (T21S), Range 9 West (R9W).

1.4 Ownership of Land Surface and Minerals

Quarry operations are located on private land owned by Graymont and on state lands leased by Graymont (lease number ML 35572). Access roads are located on state land leased by Graymont and on private lands controlled by Graymont. An easement (#1246) has been granted by the State of Utah School and Institutional Trust Lands Administration (SITLA) for the Big Sage Access Road, and the Big Sage Access Road right-of-way (ROW) (UTU-83209) from the Bureau of Land Management (BLM) is pending. There is an existing ROW (UTU-43199) from the BLM for the road and utility corridor from Bloom Siding to the Poison Mountain Permit Area. The road is also a county road that will remain as a post-mining feature administered by Millard County. Where the county road is located outside of private land owned by Graymont, the BLM ROW is UTU-80192. The mailing address and telephone number for Graymont is provided above, and the mailing address and telephone number for SITLA as well as the BLM is as follows:

State of Utah

School and Institutional Trust Lands Administration

675 East 500 South, Suite 500

Salt Lake City, UT 84102

Phone: (801) 538-5100

BLM – Fillmore Field Office

35 East 500 North

Fillmore, Utah 84631

Phone: (435) 743-3100

1.5 BLM Project File Number

Not applicable.

1.6 Summary of Permits

Prior to the beginning of operations, Continental Lime, Inc. (now Graymont Western U.S.) had applied for and obtained the required operating permits. The Project has developed since the original permits were obtained. Table 1-1 summarizes the Project permit history, and Figure 1 shows the permit areas.

Table 1-1: List of Permits

Permit	Permit Area	Permitted Disturbance (Acres)	Date
Notice of Intention (M/027/006)	Poison Mountain		1980
Notice of Intention (M/027/006) Amendment	Poison Mountain	168.9	February 1992
Notice of Intention (M/027/006) Revision	Flat Iron (aka West), Dolomite	307.8	February 1996
Notice of Intention (M/027/006) Amendment	East Allsop[1]	20.1	June 2004
Notice of Intention (M/027/006) Amendment	Allsop	338.5	November 2007
Notice of Intention (M/027/006) Amendment	Fingers	215.5	October 2008
Notice of Intention (M/027/006) Amendment	Big Sage	611.1	March 2009
Notice of Intention (M/027/006) Amendment		40.8	January 2010
Notice of Intention (M/027/006) Amendment	Big Sage	2.0	November 2013
TOTAL Disturbance		~~1,661.91702.7~~ 1704.7	

[1] East Allsop is now included in the Allsop permit.

1.7 Project Disturbance

Table 1-2 provides a description of the components associated with each permit area as well as the associated permitted disturbance.

Table 1-2: Permitted Mine Components

~~Component~~	~~Private (acres)~~	~~State (acres)~~	~~Total Permit Area (acres)~~
~~Poison Mountain~~			
~~Crushing, Screening, and Kiln Rock Stockpile Area~~	~~7.1~~	~~9.9~~	~~17.0~~
~~Access Road to Explosives Magazines~~	~~0.0~~	~~0.7~~	~~0.7~~
~~Rejects/Fines Stockpile~~	~~38.0~~	~~0.1~~	~~38.1~~
~~Cricket Mountain Quarry~~	~~26.9~~	~~52.8~~	~~79.7~~
~~West Overburden Disposal Area~~	~~0.0~~	~~20.7~~	~~20.7~~
~~North Overburden Disposal Area~~	~~1.7~~	~~0.0~~	~~1.7~~
~~Growth Media Stockpiles~~	~~0.9~~	~~2.0~~	~~2.9~~
~~Temporary Development and Access Roads~~	~~0.5~~	~~0.5~~	~~1.0~~
~~Haul Road from Quarry to Intersection with County Road~~	~~12.9~~	~~5.0~~	~~17.9~~
~~Poison Mountain Total~~	~~88.0~~	~~91.7~~	~~179.7~~
~~Flat Iron (West)~~			
~~Haul/Access Roads~~	~~26.2~~	~~0.0~~	~~26.2~~
~~Flat Iron Quarry~~	~~63.1~~	~~0.0~~	~~63.1~~
~~North Lobe Quarry~~	~~35.8~~	~~0.0~~	~~35.8~~
~~Overburden Disposal Area #1~~	~~26.5~~	~~0.0~~	~~26.5~~

Component	Private (acres)	State (acres)	Total Permit Area (acres)
Overburden Disposal Area #2	23.9	0.0	23.9
Overburden Disposal Area #3	9.5	0.0	9.5
Overburden Disposal Area #4	5.8	1.3	7.1
Growth Media Stockpile #1	2.8	0.0	2.8
Growth Media Stockpile #2	2.4	0.0	2.4
Flat Iron Total	**196.0**	**1.3**	**197.3**
Dolomite			
Haul/Access Road	5.8	0.0	5.8
BB Dolomite Quarry	51.6	0.0	51.6
Fines Pile (Undersize Material Stockpile)	37.0	0.0	37.0
Screened Stone Stockpiles	1.3	0.0	1.3
Crusher	0.1	0.0	0.1
Growth Media Stockpile	3.9	0.0	3.9
Dolomite Total	**99.7**	**0.0**	**99.7**
Allsop			
Allsop Quarry[4]	255.0	0.0	255.0
East Overburden Disposal Area	42.4	0.0	42.4
West Overburden Disposal Area	14.3	0.0	14.3
Roads	2.2	0.0	2.2
Growth Media Stockpiles	18.2	0.0	18.2
Fines Pile (Undersize Stockpiles)	8.3	0.0	8.3
Kiln Stone Stockpiles	18.2	0.0	18.2
Allsop Total	**358.6**	**0.0**	**358.6**
Fingers			
Quarry Area	138.0	0.0	138.0
Overburden Pile #1	15.6	0.0	15.6
Overburden Pile #2	42.7	0.0	42.7
Overburden Pile #3	10.6	0.0	10.6
Haul Roads	2.0	0.0	2.0
Growth Media Stockpile #1	3.8	0.0	3.8
Growth Media Stockpile #2	2.8	0.0	2.8
Fingers Total	**215.5**	**0.0**	**215.5**
Big Sage			
Big Sage North Quarry Area[2]	96.7	20.1	116.8
Big Sage South Quarry Area[2]	279.5	0.0	279.5
North Overburden/Fines Pile	22.9	0.0	22.9
Central Overburden/Fines Pile	96.4	0.0	96.4
Facility Area[2]	58.5	0.0	58.5
Roads	17.3	2.5	19.8
Growth Media Stockpile	17.2	0.0	17.2
Big Sage Total	**588.5**	**22.6**	**611.1**

Component	Private (acres)	State (acres)	Total Permit Area (acres)
GRAND TOTAL	1546.3	115.6	1,661.9

Component	Private (acres)	State (acres)	Total Permit Area (acres)
Roads	44.7	4.5	49.2
Ancillary (Includes some Roads)	29.9	0.0	29.9
Facilities (Crushing, Screening, etc.)[2]	63.8	10.5	74.3
Fines Pile (Rejects Stockpile)	104.3	0	104.3
TOtal			
Quarries[3]	958.4	39.9	998.3
Growth Media Stockpiles	53.5	1	54.5
Stone Stockpiles[1]	42.4	4.1	46.5
Overburden Disposal Area	346.9	0.8	347.7
GRAND TOTAL	1,643.9	60.8	1,704.7

Table 1-3a: Permitted Mine Components by Quarry

Component	Private (acres)	State (acres)	Total Permit Area (acres)
Poison Mountain			
Ancillary (includes some roads)	14.6	0.0	14.6
Facilities (Crushing, Screening, etc.)	5.2	10.5	15.7
Fines Pile (Rejects Stockpile)	60.5	0.0	60.5
Poison Mountain Quarry	2.2	19.8	22.0
Roads	11.8	2.0	13.8
Growth Media Stockpiles	2.3	0.0	2.3
Stone Stockpiles[1]	28.2	4.1	32.3
Poison Mountain Total	124.8	36.4	161.2
Flat Iron			

Component	Private (acres)	State (acres)	Total Permit Area (acres)
Ancillary	9.5	0.0	9.5
Overburden Disposal Areas	101.7	0.8	102.5
Flat Iron Quarry	66.7	0.0	66.7
North Lobe Quarry	44.1	0.0	44.1
Growth Media Stockpile	3.8	0.0	3.8
Flat Iron Total	**225.8**	**0.8**	**226.6**
Dolomite			
Ancillary	5.8	0.0	5.8
Fines Pile (Undersize Material)	43.8	0.0	43.8
Dolomite Quarry	76.0	0.0	76.0
Haul Road	1.0	0.0	1.0
Growth Media Stockpile	6.5	0.0	6.5
Stone Stockpiles	14.2	0.0	14.2
Dolomite Total	**147.3**	**0.0**	**147.3**
Allsop			
Allsop Quarry	254.7	0.0	254.7
East Overburden Disposal Area	42.4	0.0	42.4
West Overburden Disposal Area	14.3	0.0	14.3
Roads	2.7	0.0	2.7
Growth Media Stockpiles	16.1	0.0	16.1
Fines Pile (Undersize Stockpiles[2])	0.0	0.0	0.0
Kiln Stone Stockpiles[2]	0.0	0.0	0.0
Allsop Total	**330.2**	**0.0**	**330.2**
Fingers			
Quarry Area	138.1	0.0	138.1
Overburden Piles	69.0	0.0	69.0
Haul Roads	2.0	0.0	2.0
Growth Media Stockpiles	6.6	0.0	6.6
Fingers Total	**215.7**	**0.0**	**215.7**
Big Sage			
Big Sage North Quarry Area[3]	96.8	20.1	116.9
Big Sage South Quarry Area[3]	279.8	0.0	279.8
North Overburden/Fines Pile	23.0	0.0	23.0
Central Overburden/Fines Pile	96.5	0.0	96.5
Facility Area[2]	58.6	0.0	58.6
Roads	17.3	2.5	19.8
Growth Media Stockpile	18.2	1.0	19.2
Big Sage Total	**590.2**	**23.6**	**613.8**
Roads			
Roads not assigned to a Permit Area	9.9	0.0	9.9
Roads Total	**9.9**	**0.0**	**9.9**

Component	Private (acres)	State (acres)	Total Permit Area (acres)
GRAND TOTAL	**1,642.9**	**59.8**	**1,704.7**

[1] Includes stone stockpiles formerly included in the Allsop Permit Area.

[2] Stone stockpiles moved to the Poison Mountain Permit Area.

[3] Acres include interior roads.

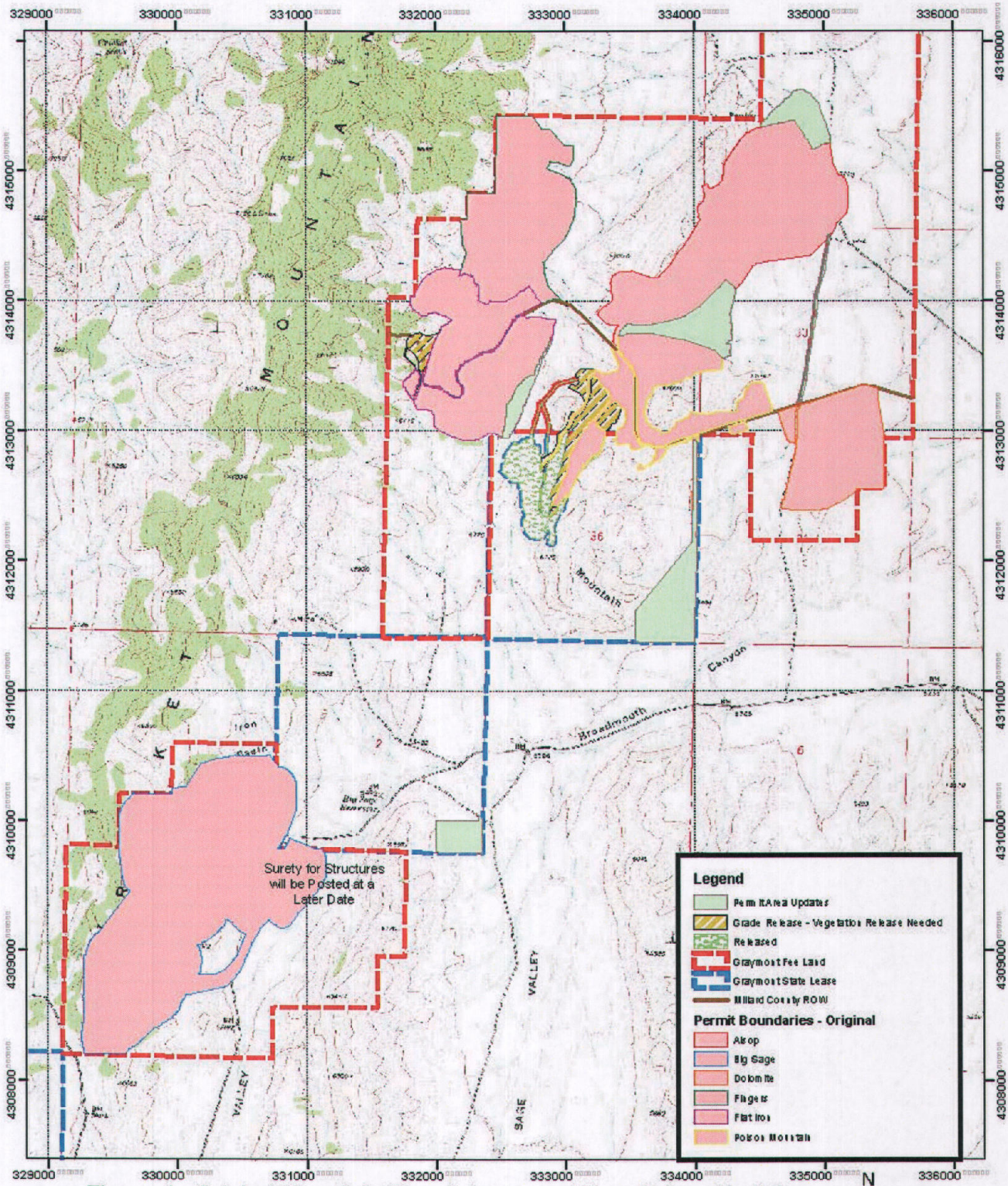

Figure 1 - Cricket Mountain Permit Areas and Permit Area Updates
UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

2. Permit Boundaries Updates

2.1 Overview of Operation

The Cricket Mountain Mine presently consists of limestone quarries in the following permit areas: Poison Mountain, Dolomite, Flat Iron (formerly West), Allsop, Fingers, and Big Sage. The quarry operations consist of the excavation of high calcium limestone from outcropping deposits, crushing and sizing the stone at the facilities areas, and transporting the crushed and sized limestone offsite. Components associated with the mine include haul roads, overburden piles, fines piles, growth media stockpiles, and crushers. Quicklime is the ultimate commercial product from a large portion of the mine operation and is used for industrial and chemical purposes, such as pH control and fluxing. The updated permitted components are shown on Figure 2.

Graymont is updating the permitted areas and the associated surety by approximately 209 acres. An overview of permit updates is shown on Figure 2, and permit updates for individual permit areas are provided in figures 3 through 8. Updated permit areas by component are provided in Table 2-1. Permit updates include a buffer zones and minor extensions of components to account for access and unforeseen disturbance requirements. Due to changes in mine design since the original permits were issued, categories, such as "stone stockpiles" and "ancillary", have been reallocated within permitted disturbance boundaries as necessary to match existing and foreseeable conditions. Areas that have been reclaimed and released are excluded from the updated permit areas, but reclamation areas are shown on figures 3 through 8 as appropriate.

2.2 Site Preparation

Where available and safe, growth media will be stripped from planned disturbance areas and salvaged for use as growth media during reclamation. Where feasible, vegetation growing on areas containing salvageable growth media will be removed and stored in the growth media stockpile to contribute to organic matter to the growth media.

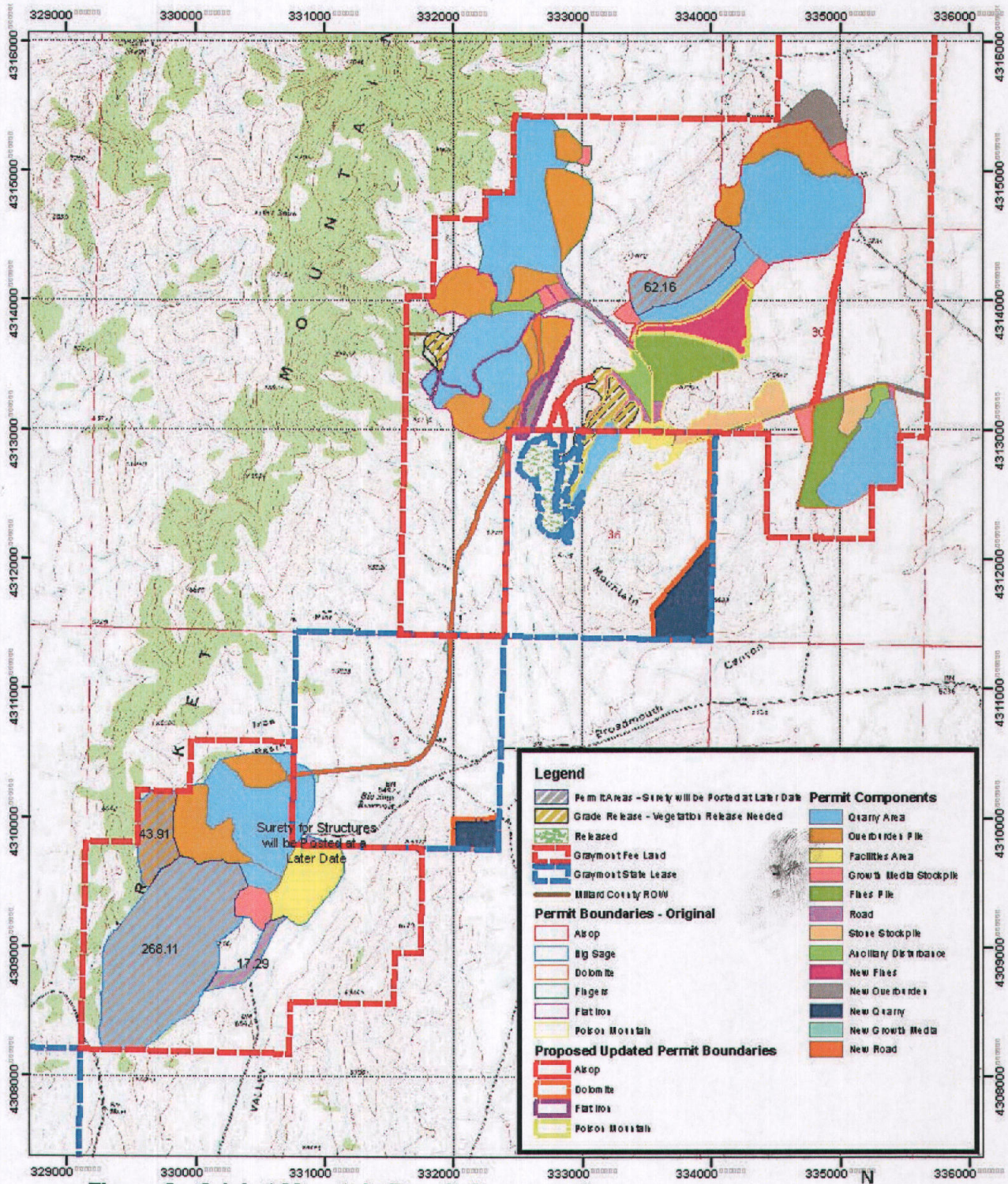

Figure 2 - Cricket Mountain Permit Components
UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

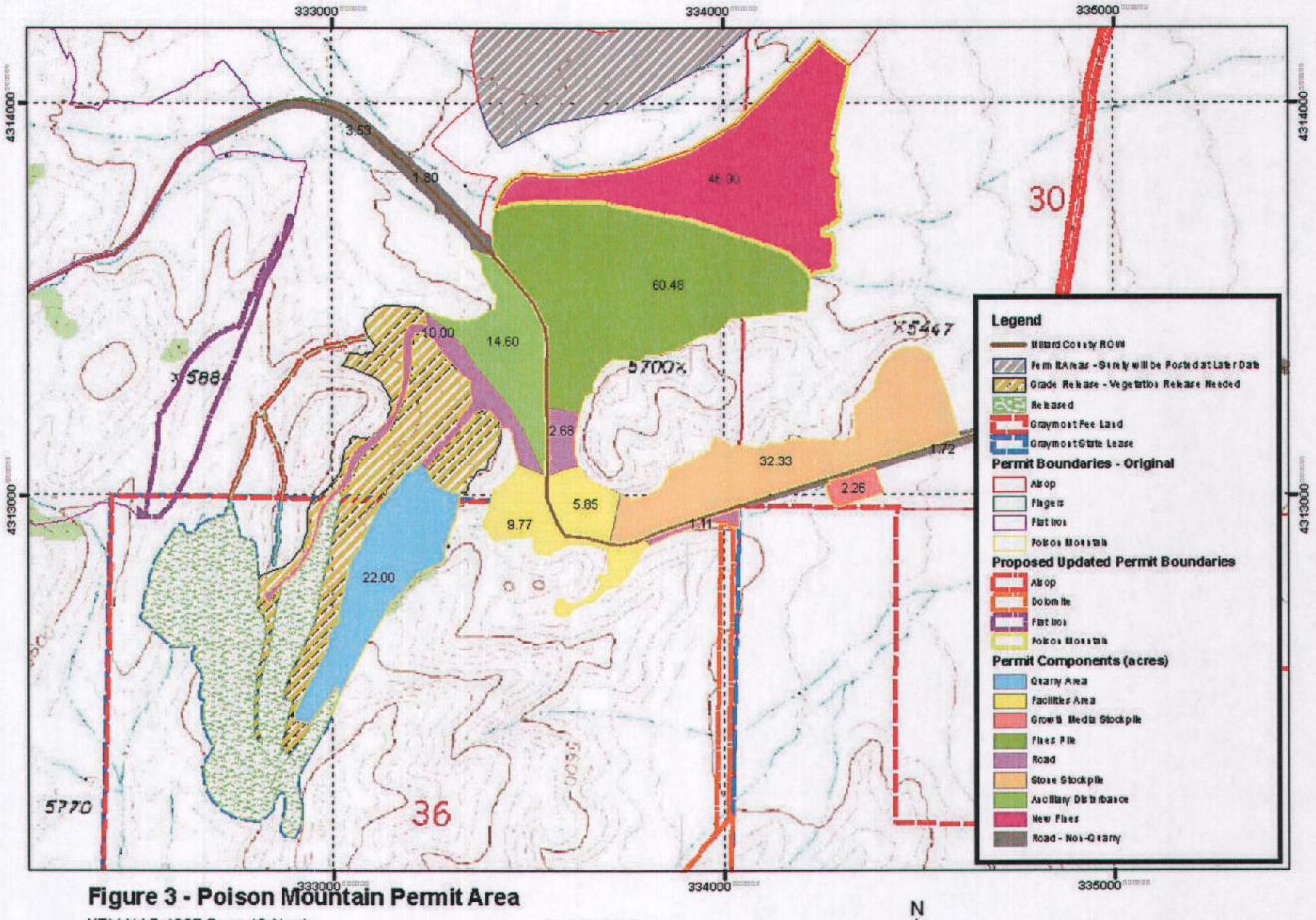

Figure 3 - Poison Mountain Permit Area

UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

1:12,000
0 300 600 1,200 1,800 2,400 3,000 Feet

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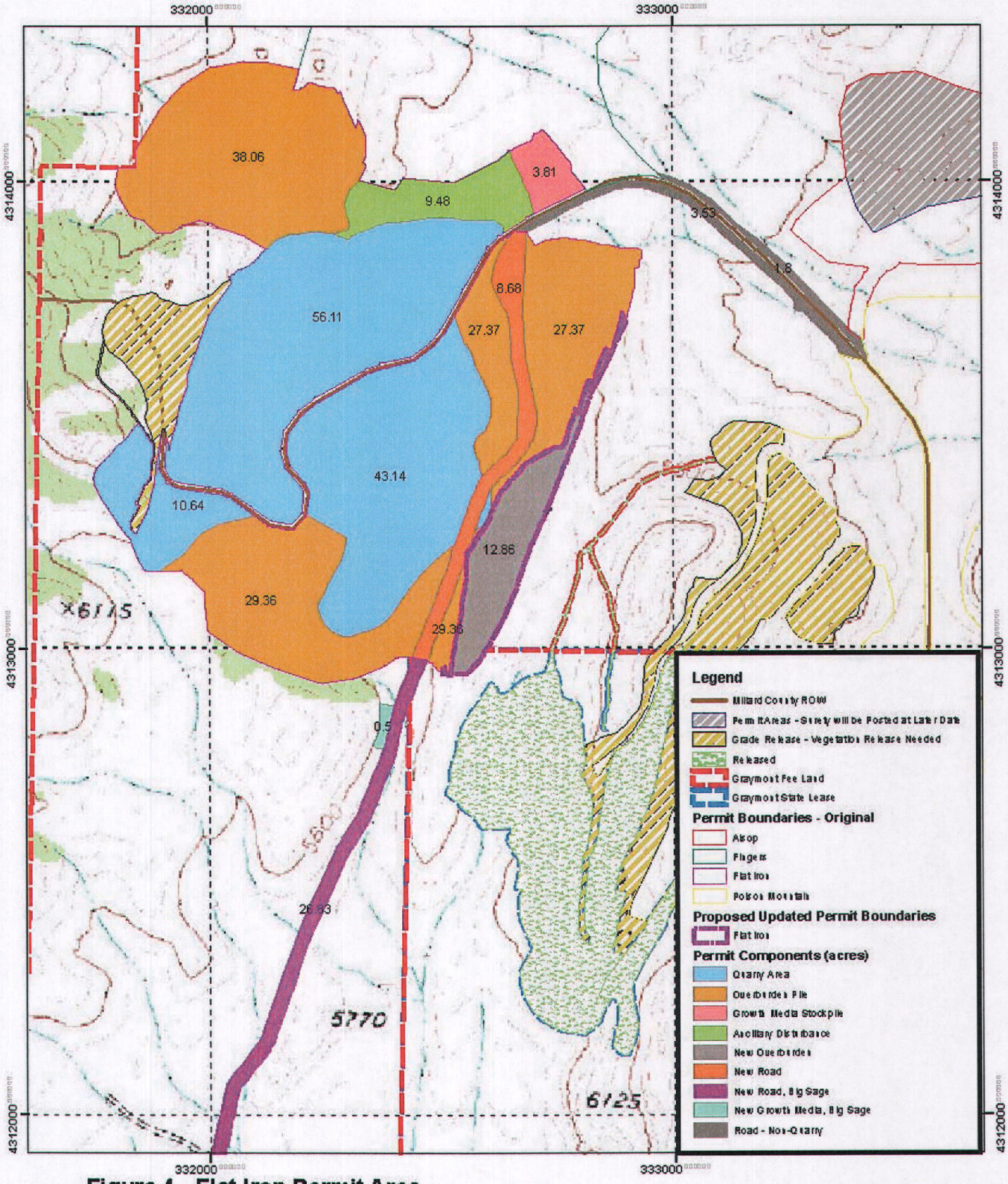

Figure 4 - Flat Iron Permit Area

UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

1:10,000

0 300 600 1,200 1,800 2,400 Feet

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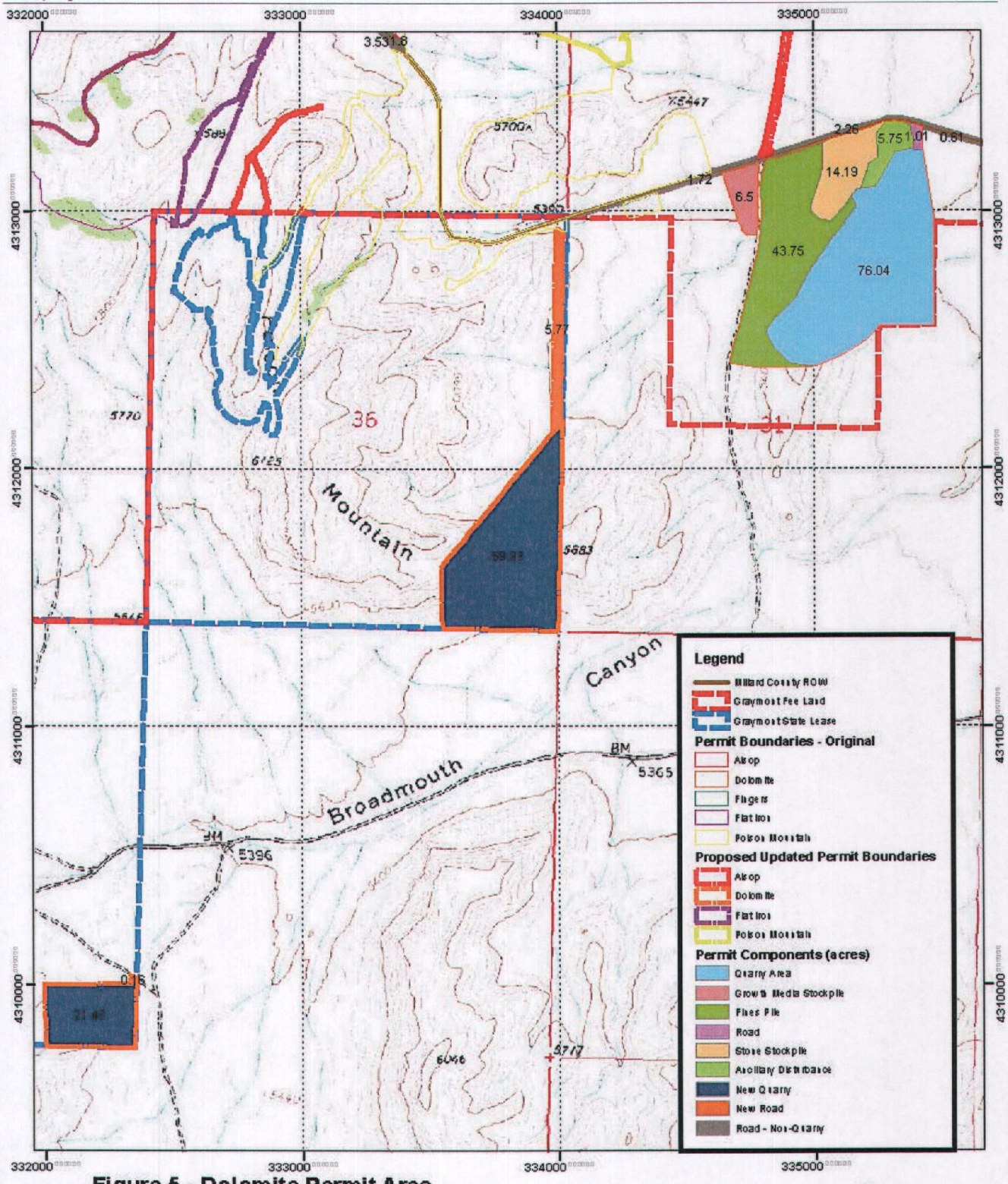


Figure 5 - Dolomite Permit Area
UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

1:18,000
0 500 1,000 2,000 3,000 4,000 Feet

N

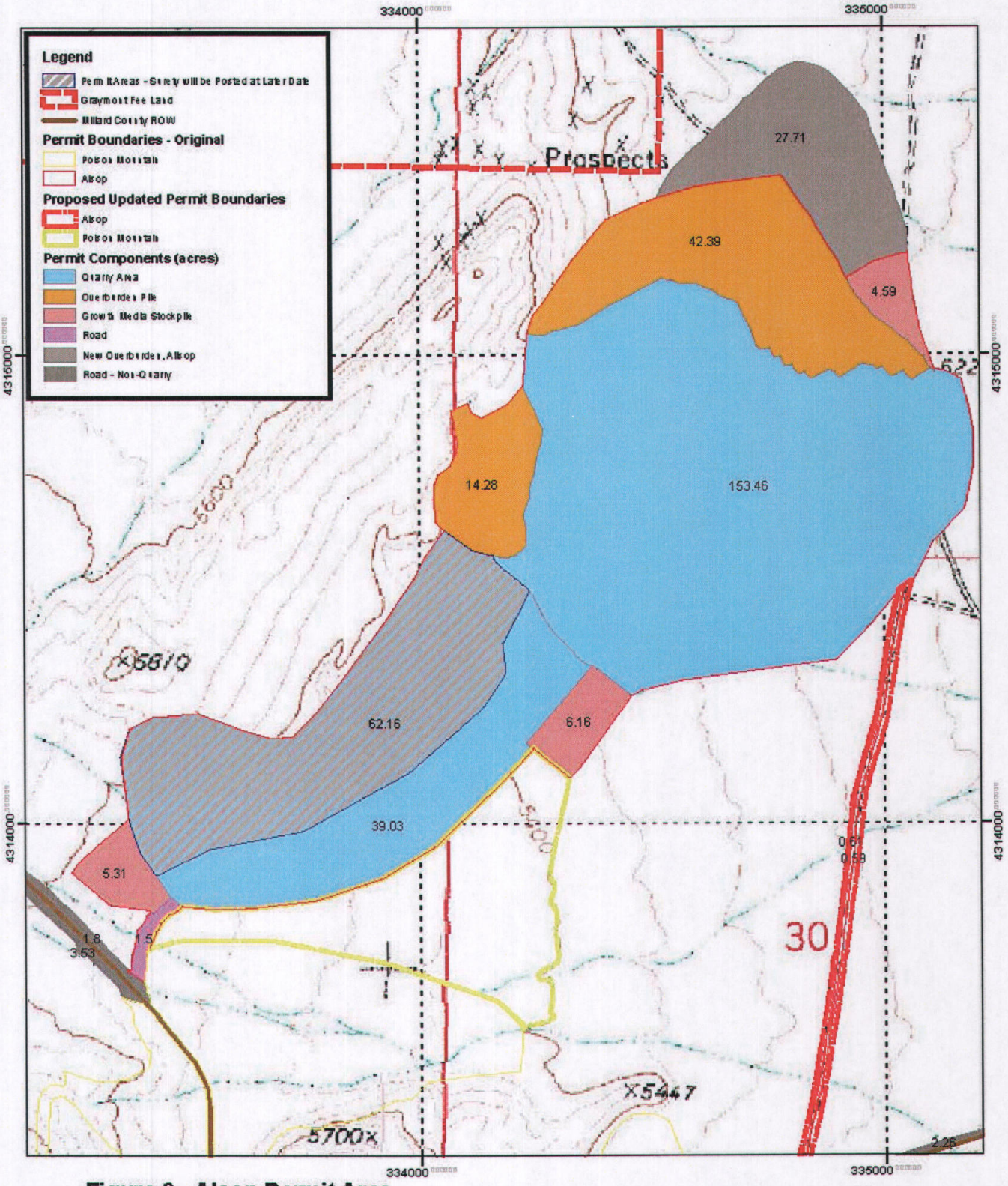


Figure 6 - Alsop Permit Area
UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

1:10,000
0 255 510 1,020 1,530 2,040 Feet

N

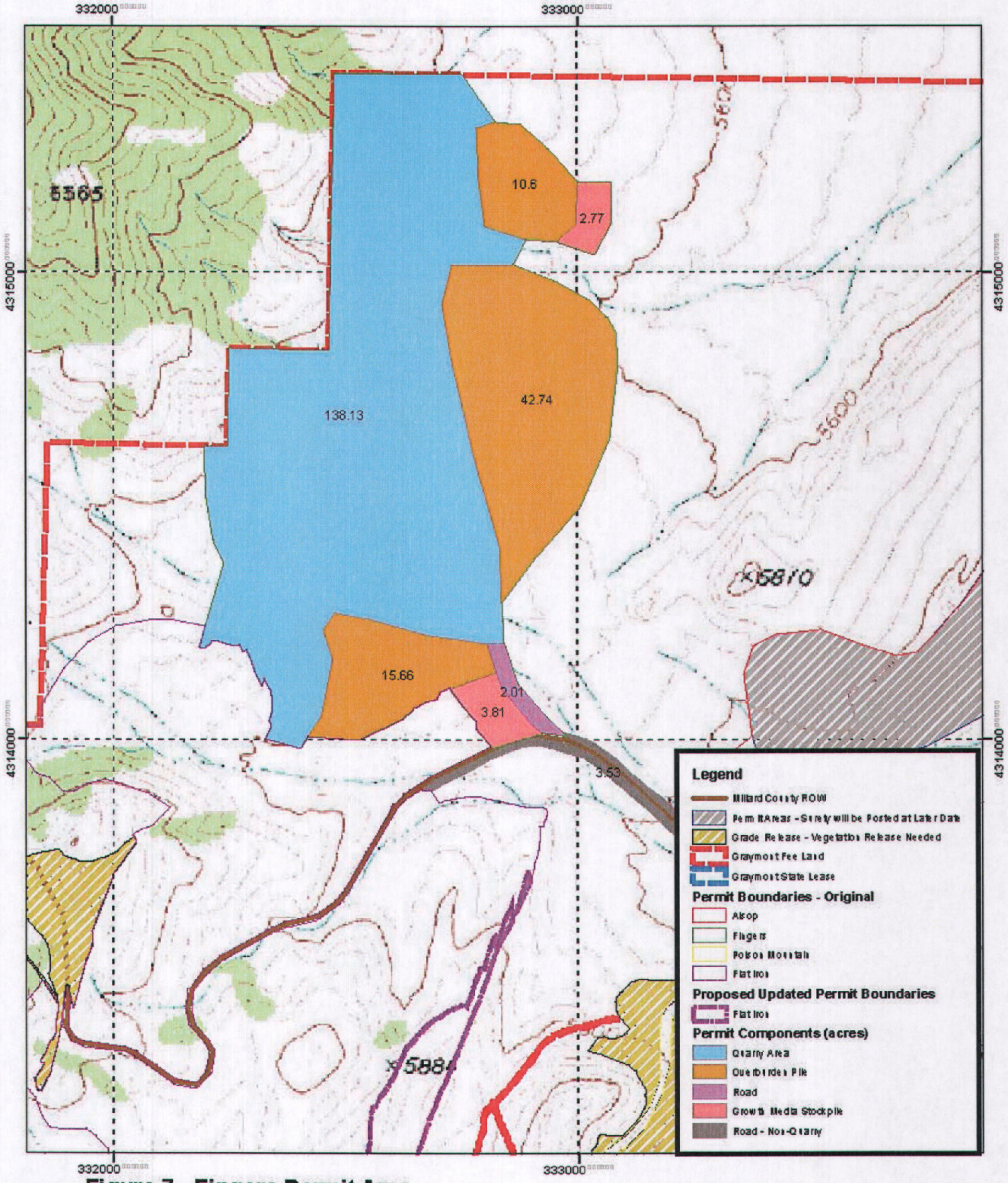


Figure 7 - Fingers Permit Area
UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

1:10,000
0 255 510 1,020 1,530 2,040
Feet

N

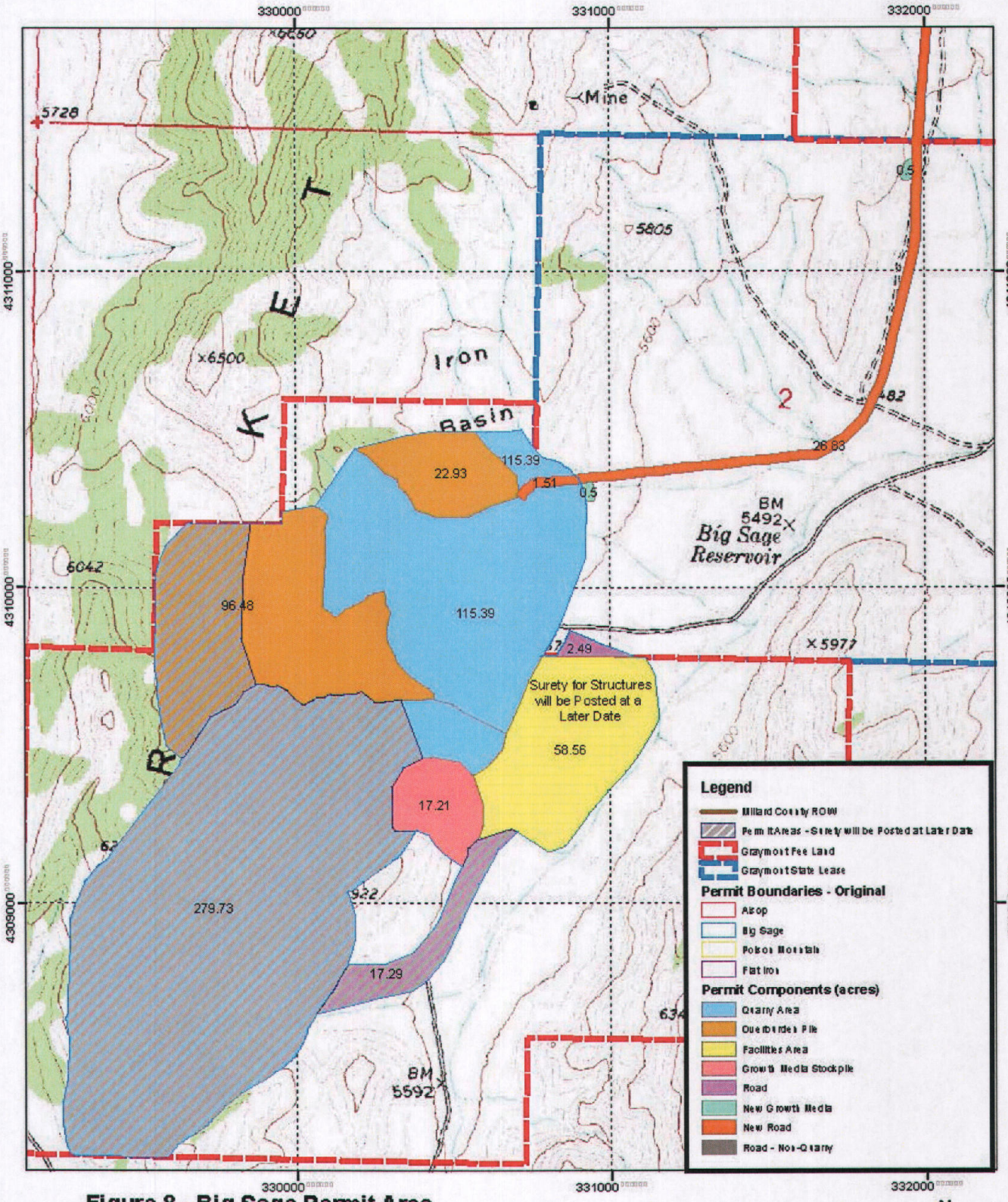


Figure 8 - Big Sage Permit Area

UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

Table 2-1: Planned Mine Components

Component	Private (acres)	State (acres)	Total Permit Area (acres)
Poison Mountain			
Ancillary (includes some roads)	14.6	0.0	14.6
Facilities (Crushing, Screening, etc.)	5.2	10.5	15.7
Fines Pile (Rejects Stockpile)	60.5	0.0	60.5
Poison Mountain Quarry	2.2	19.8	22.0
Roads	11.8	2.0	13.8
Growth Media Stockpiles	2.3	0.0	2.3
Stone Stockpiles	28.2	4.1	32.3
New Growth Media Stockpile	48.7	0.0	48.7
Poison Mountain Total	~~124.8~~ 173.5	36.4	~~161.2~~ 209.9
Flat Iron			
Ancillary	9.5	0.0	9.5
Overburden Disposal Areas	94.3	0.6	94.9
Flat Iron Quarry	66.7	0.0	66.7
North Lobe Quarry	43.1	0.0	43.1
Growth Media Stockpile	3.8	0.0	3.8
New Road	8.5	0.2	8.7
New Overburden Pile	12.1	0.8	12.9
Flat Iron Total	**238.0**	**1.6**	**239.6**
Dolomite			
Ancillary	5.8	0.0	5.8
Fines Pile (Undersize Material)	43.8	0.0	43.8
Dolomite Quarry	76.0	0.0	76.0
Haul Road	1.0	0.0	1.0
Growth Media Stockpile	6.5	0.0	6.5
Stone Stockpiles	14.2	0.0	14.2
New Quarries	0.0	81.4	81.4
New Roads	0.0	6.0	6.0
Dolomite Total	**147.3**	87.4	234.7
Allsop			
Allsop Quarry	254.7	0.0	254.7
East Overburden Disposal Area	42.4	0.0	42.4
West Overburden Disposal Area	14.3	0.0	14.3
Roads	2.7	0.0	2.7
Growth Media Stockpiles	16.1	0.0	16.1
Fines Pile (Undersize Stockpiles[2])	0.0	0.0	0.0
Kiln Stone Stockpiles[2]	0.0	0.0	0.0
New Overburden Pile	27.7	0.0	27.7
New Road	6.8	0.0	6.8
Allsop Total	~~330.2~~ 364.7	**0.0**	~~330.2~~ 364.7

Component	Private (acres)	State (acres)	Total Permit Area (acres)
Fingers			
Quarry Area	138.1	0.0	138.1
Overburden Piles	69.0	0.0	69.0
Haul Roads	2.0	0.0	2.0
Growth Media Stockpiles	6.6	0.0	6.6
Fingers Total	**215.7**	**0.0**	**215.7**
Big Sage			
Big Sage North Quarry Area[3]	~~96.8~~95.8	~~20.1~~19.6	115.4
Big Sage South Quarry Area[3]	279.8	0.0	279.8
North Overburden/Fines Pile	22.9	0.0	22.9
Central Overburden/Fines Pile	96.5	0.0	96.5
Facility Area[2]	58.6	0.0	58.6
Roads	17.3	2.5	19.8
Growth Media Stockpile	~~17.2~~18.2	~~0.0~~1.0	~~17.2~~19.2
New Road	12.8	15.5	28.3
Big Sage Total	**~~589.2~~ 601.9**	**~~22.6~~ 38.6**	**~~611.8~~640.5**
Roads			
Roads not assigned to a Permit Area	9.9	0.0	9.9
Roads Total	**9.9**	**0.0**	**9.9**
GRAND TOTAL	**~~1642.9~~ 1763.7**	**~~59.8~~ 148.0**	**~~1702.7~~ 1911.2**

2.3 Mining Operation

Prior to surface disturbing activities, growth media is and will continue to be salvaged and placed in stockpiles. Limestone ore will be extracted from the quarries, and overburden will be placed in overburden piles. Fines from the crushing and screening processes will be deposited in the fines piles as well.

2.3.1 Quarries

Conventional bench type mining methods are used and will continue to be used to extract limestone from the quarries. Drilling and blasting is used to break the rock, and the limestone is loaded into haul trucks with a front-end loader and transported to the crusher facilities. Overburden will typically be sent to the nearest overburden pile, and quarry backfilling will be employed where practical. The quarries operate 24 hours per day, seven days per week.

Quarry design is based on Graymont's experience at the existing Cricket Mountain Mine as well as on surface mining industry standards. Benches are developed to ensure maximum recovery of limestone. Bench faces in the quarries are typically 20 to 40 feet high, and minimum bench width is about 20 feet but is typically much wider. Minimum bench width is dictated by equipment operating requirements. Benches are maintained at safe operating width to allow access, where needed. Bench face angles are typically near vertical.

Safety berms are constructed with rock from the quarries to restrict access to quarry slopes that occur due to mining. Safety berms are constructed in accordance with Mine Safety and Health Administration (MSHA) regulations.

2.3.2 Slope Stability

Previous mining experience at the Cricket Mountain Mine indicates that the mined limestone is very stable and no large-mass stability issues within the quarry have been noted since the beginning of operations in 1981. Previous mining experience, natural cliffs in excess of one hundred feet high, and absence of talus slopes at the base of the cliffs within the permit areas indicate that quarried formation is competent. If quarrying intercepts unstable formations, slope stability will be evaluated, and the quarry design will be altered, as necessary. If problematic joint sets are recognized during quarrying, the joint sets will be evaluated for effect on slope stability.

Exploration drilling within the permit areas has not encountered groundwater, indicating that groundwater is below the base of planned excavations. Groundwater is not expected to have adverse effects on slope stability.

Rockfalls and back-break are and will continue to be reduced and managed by continually refining blasting designs and methods. Bench heights have been defined in order to allow equipment to work safely. However, if rockfall becomes a safety concern, mitigation measures will be taken, which may include bench scaling or avoidance.

The quarries are and will continue to be regularly monitored for signs of instability, such as significant raveling or fault exposure, and the quarries will continue to be managed in accordance with MSHA safety guidelines as well as the operating and reclamation plans associated with each permit area. Quarry slopes and benches will be regularly monitored by quarry crews, supervisors, and when required, mining engineers.

2.3.3 Overburden and Fines Piles

Prior to end-dumping overburden or fines on designated piles, growth media will be salvaged and stockpiled where practical and safe. No sulfide or deleterious materials have been identified in materials that have been or will be excavated.

The overburden and fines piles are generally constructed by end-dumping in lifts in valleys or on hillsides, and the piles may be utilized concurrently. The overburden and fines piles will either be built in single lifts or with lifts approximately 40 feet high offset by benches approximately 20 feet wide. Constructed slopes of the overburden and fines piles are typically less than 38 degrees. The piles are accessed via benches, which are and will continue to be maintained at safe operating width to allow access, where needed. Access points will be rerouted or modified as mining progresses to provide for safe equipment access.

Overburden and fines piles are and will continue to be visually monitored following spring snowmelt and intense rain events to ensure that drainage and sediment control measures are effective. During reclamation, sloped surfaces having the potential to experience accelerated erosion may be contour furrowed, if necessary.

2.3.4 Limestone Crushing and Screening

Crushers and screens will be used to crush and screen limestone hauled from the quarries to a nominal size of minus 2 ½ inches by plus 3/16 inch. Current processing plans do not include the use of processing chemicals within the permit areas. Crushed and screened limestone will be stockpiled near the crushers and screens and/or hauled to an off-site processing plant.

2.3.5 Roads

Haul roads and interior roads are and will continue to be constructed to safely accommodate haul trucks and to meet Mine Safety and Health Administration (MSHA) requirements. Disturbance widths will include safety berms on the outside edges and internal drainage ditches, where necessary, and culverts or swales will be constructed across drainage crossings.

2.3.6 Growth Media Stockpiles

Salvageable growth media, including surface vegetation, has been and will continue to be removed and stockpiled within the areas planned for disturbance. Suitable growth media has been and will continue to be stockpiled, where practical, so as to be available for reclamation. Salvageable growth media is defined as surface material that is presently supporting plant growth. Past experience at Cricket Mountain indicates that the practical minimum thickness for salvageable growth media is six inches. Graymont has and will continue to use equipment from the on-site fleet to salvage growth media; this equipment includes but is not limited to D8-class dozers, loaders, and haul trucks.

Growth media stockpiles have been and will continue to be contoured to minimize wind erosion and revegetated with the approved reclamation seed mix. Signs will be posted to prevent disturbance to the growth media stockpiles. Some of the planned disturbance areas are heavily infested with cheatgrass. Graymont will place the top few inches of stockpiled growth media on the bottom of the pile and evaluate treating the stockpiled growth media with an herbicide to reduce the spread of cheatgrass. Growth media stockpiles will be seeded the first fall after the growth media is salvaged.

2.3.7 Buildings and Yards

Crushing and screening facilities are located at the northeast end of the Poison Mountain Quarry, and mobile crushing and screening facilities are used periodically at the Dolomite Quarry. Crushing and screening facilities have been authorized but not yet constructed at the Big Sage Permit Area.

Other facilities at the Poison Mountain Permit Area include an explosives magazine and a cap magazine south of the crushing and screening facilities. In addition, an office building and equipment yard are located southwest of the crusher on the south side of the haul road. Buildings and yards at the Poison Mountain Permit Area are shown on Figure 9. The Big Sage planed buildings and yards are shown in Figure 10.

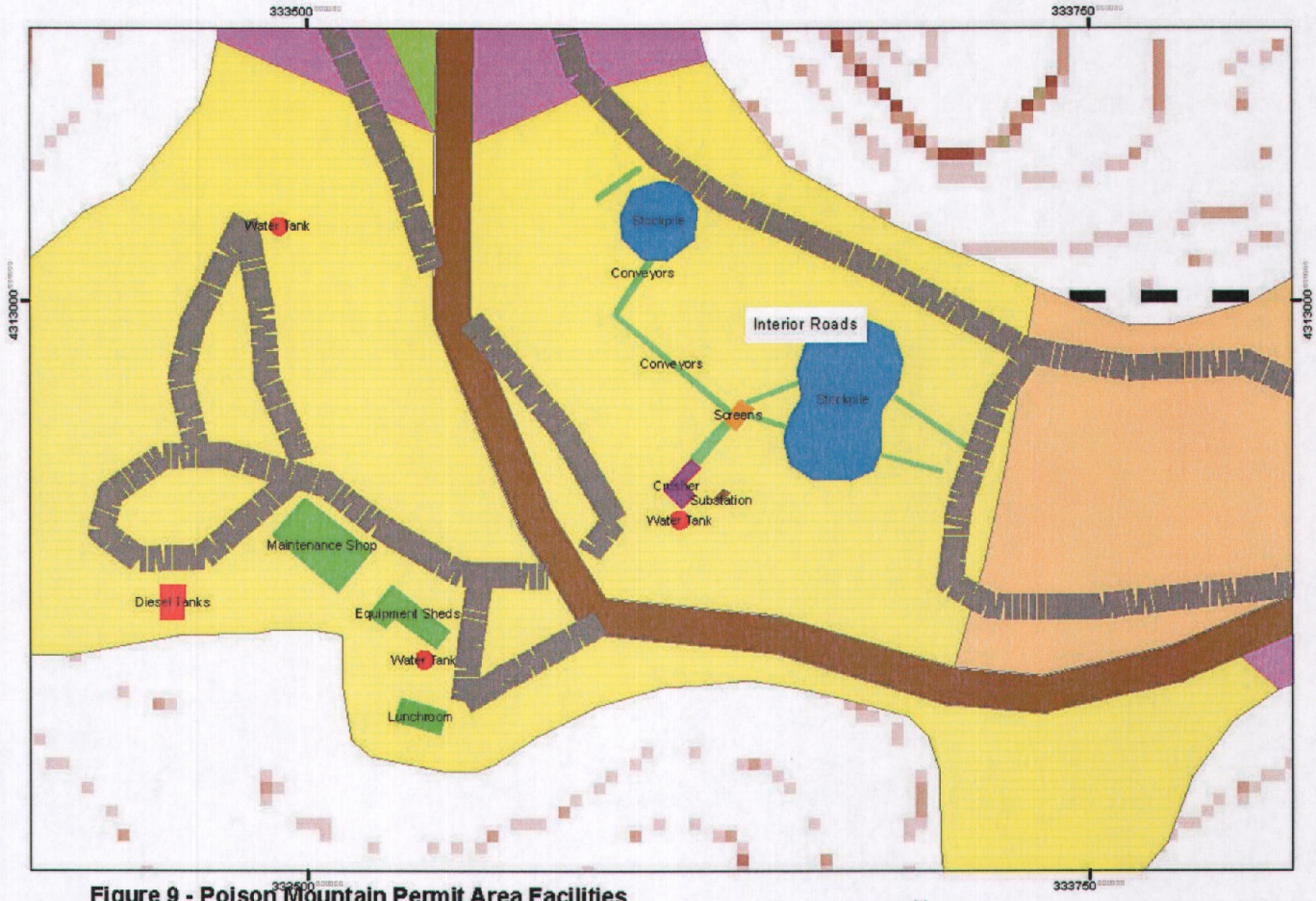


Figure 9 - Poison Mountain Permit Area Facilities

UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

Facilities at the Big Sage Permit Area have been authorized but not yet constructed. As shown on Figure 10, authorized facilities at the Big Sage Permit Area consist of a warehouse, a maintenance shop, a first aid room, an office, a lunch room a truck washing station, three water tanks, a fuel tank, ANFO storage, a primary crusher, a secondary crusher, conveyors, and screens.

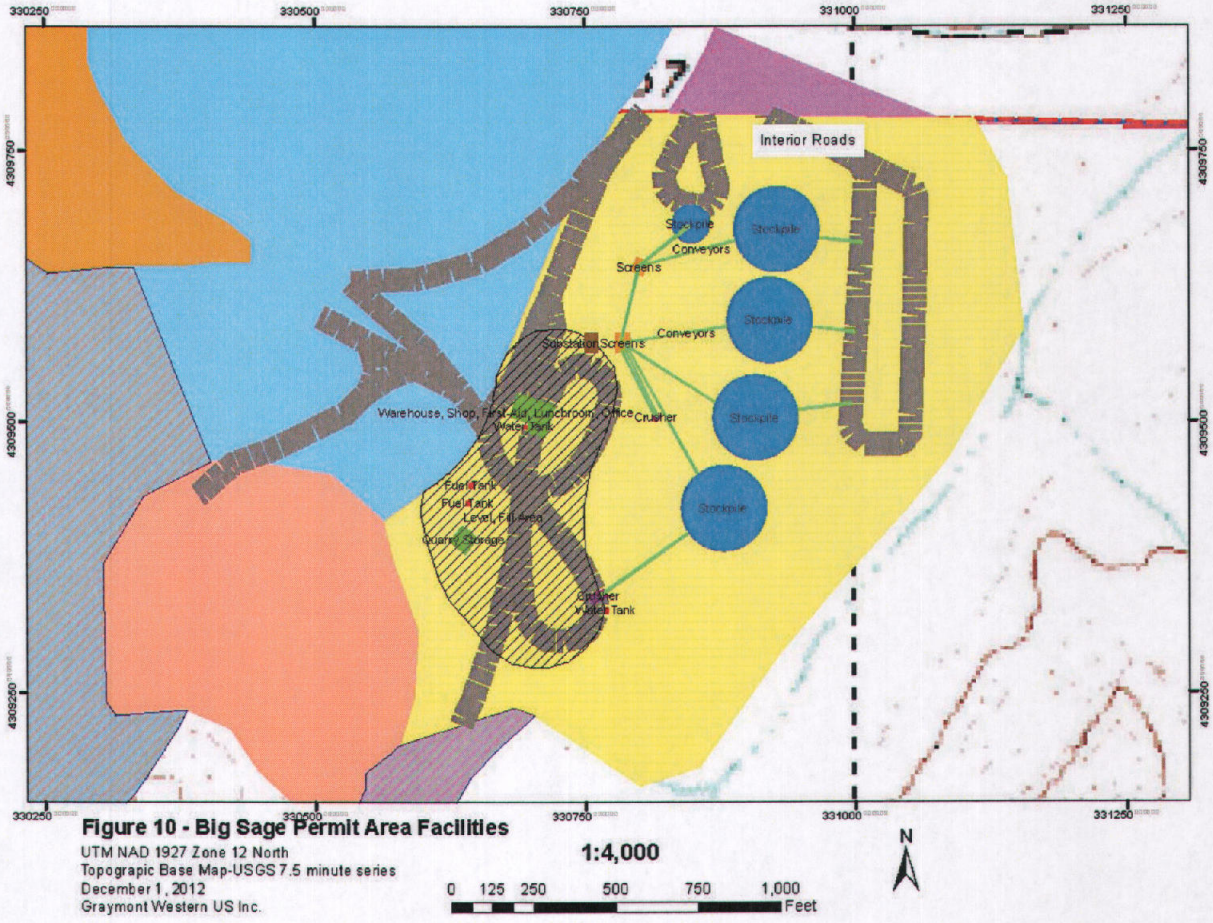


Figure 10 - Big Sage Permit Area Facilities
UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

2.3.8 Water Supply

An existing well, shown in Figure 2, currently supplies water for the mining operations and processing facilities. Water use associated with the mining operations is generally limited to dust control on roads and disturbed areas as well as during drilling, crushing, and screening operations. This will be done in accordance with the dust control plan submitted with the NOI.

2.3.9 Power Supply

Line power is supplied to the Poison Mountain Permit Area. A substation is located at the Poison Mountain Permit Area and has a nominal capacity of 12 kV. Power for the crusher at the Dolomite Permit Area is supplied from on-site power or by a diesel generator.

Line power from the utility corridor along the Big Sage Access Road will be established at the Big Sage Permit Area. A substation will be located within the Facility Area and will have a nominal capacity of 69 kV.

2.3.10 Equipment Requirements

The existing equipment fleet is summarized in Table 2-2.

Table 2-2 Current Equipment List

Equipment	Model	Quantity
Loaders	CAT 992	2
	CAT 990	1
	CAT 988	1
	Komatsu W 600	2
Haul Trucks	CAT 777	4
	Dresser 210M	2
Water Truck	CAT 773	1
Dozer	CAT D9-T	1
Grader	CAT 14G	1
Skidsteer	CAT 226	1
Drills	IR DM30	2
	IR ECM 660	2
	IR ECM 370	1
	IR ECM 350	1
Anfo Truck	Inter 4900	1
Support Trucks	F-350	1
	Dodge 3500	1
	Dodge 2500	1
	Chev 1500	1

2.3.11 Project Workforce

The total current work force in the quarry is 17 people. Workforce may vary depending on production requirements.

2.4 Operation Practices

2.4.1 Blasting

Blasting will occur as needed to sustain production, but will be limited to daylight hours. Blasting protocols meet or exceed MSHA regulations. Loose material generated from blasting that might migrate toward the edge of the quarry benches and pose a safety hazard will be removed immediately. Stemming and burden width will be modified as needed to reduce fly rock.

Typically, ammonium nitrate and fuel oil (ANFO) will be used as blasting agents with other products depending on conditions. Blasting agents will be stored in compliance with applicable Bureau of Alcohol Tobacco and Firearms, Department of Homeland Security, and MSHA regulations.

2.4.2 Fuel Storage and Use

Diesel fuel currently is and will continue to be stored in approved above ground tanks at the Poison Mountain Permit Area. These tanks are installed on concreted pads and surrounded by concrete berms to contain leaks. Diesel fuel and gasoline will be stored in above ground tanks at the Big Sage Permit Area. The tanks will be installed on concrete pads and surrounded by concrete berms to contain leaks, spills, or ruptures of the tanks. Diesel fuel, gasoline, and oil will be handled in accordance with industry standards as well as state and federal regulations.

2.4.3 Sanitary and Solid Waste Disposal

A septic tank and leach field will be located near the maintenance building at the Big Sage Permit Area. Explosives containers and packing materials will be disposed of according to manufacturer instructions. Used tires, scrap lumber, etc. will be stored in bone yards at the Big Sage and Poison Mountain permit areas until disposed. Waste piles will be placed to avoid environmental impacts. Waste materials will be removed at closure and disposed of in an approved off-site landfill.

Used oil will be burned in building heaters located at nearby facilities or picked up for disposal or recycling by a private contractor. Used containers will be disposed according to federal, state, and local regulations.

Solid waste generated by the mine and process departments will be collected in dumpsters near the point of generation. Solid waste will be shipped off-site to a local landfill.

Employees will be informed of their responsibilities in proper waste disposal procedures.

2.4.4 Safety and Site Control

The Project is and will continue to be permitted as a mining operation and will continue to operate in conformance with applicable MSHA safety regulations (30 CFR 1-199) as well as in conformance with the requirements of the Utah Mined Land Reclamation Act and associated rules. The access roads to the quarry areas are and will continue to be restricted to employees and authorized visitors.

Warning signs will be placed where quarry slopes are located as well as at entrance locations to the Facility Area. Warning signs will be in a location that is visible from more than one viewpoint, and multiple signs will be placed in areas where signage will not be visible from more than one viewpoint. Warning signs will be easy to read and easy to understand.

2.4.5 Storm Water Management

Rain water or snowmelt in the quarries either soaks into the ground or forms puddles on the quarry floor. The puddles either evaporate or soak into the ground. The quarry floors will be relatively flat and will be gently sloped to prevent storm water from leaving the quarry areas. In addition, storm water berms will be constructed along the outer edge of the quarry floors, which will prevent storm water from leaving the quarry areas.

The quarry haul roads are protected on both sides by safety berms. Under certain rainfall conditions, storm water will travel along the safety berms to temporary catch basins that are located onsite. The water that collects in the catch basins or other areas either soaks into the ground or evaporates. No storm water is discharged off the property from the catch basins or haul roads within the quarry areas.

Overburden and fines piles and growth media stockpiles will be constructed to control runoff. Overburden and fines piles will be visually monitored following spring snowmelt and intense rain events to ensure that drainage and sediment control measures are effective. During reclamation, sloped surfaces having the potential to experience accelerated erosion will be contour furrowed, if necessary.

Surface waters will be managed to avoid sediment loading to runoff outside of the permit areas. No jurisdictional waters will be affected by quarry and support operations.

2.4.6 Erosion and Sediment Control

Best Management Practices (BMPs) will be used to limit erosion and reduce sediment in precipitation runoff from Project components and disturbed areas during construction and operations. BMPs may include, but are not limited to: straw bale sediment traps, diversion ditches, and rock and gravel cover. Straw bales will be used in areas where temporary erosion and sediment control measures are installed while rock and gravel cover will be utilized on permanent erosion and sediment control features. Vegetation is also a BMP and may be used as a cover to reduce the potential for wind and water erosion. Following construction activities, identified areas will be seeded as soon as practical and safe.

Sediments containing deleterious materials have not been identified and are not expected to exist at the Cricket Mountain Project. Material that will be excavated in the quarry areas is of typical carbonate composition, and the major constituents are calcite, dolomite, and silica.

Sediment and erosion control measures will be visually inspected annually or as soon as practicable following large storm or runoff events. Maintenance will occur on a regular basis and repairs performed as needed.

2.4.7 Emission Control

Methods for controlling dust are specified in the *Dust Control Plan* and the air quality permit (operating permit #2700004001). Water application with the use of a water truck will be the primary method of dust suppression on haul roads and disturbed areas within the permit areas. Speed limitations will also be employed for the haul roads. A chemical dust suppressant, such as magnesium chloride or calcium chloride, will be applied to the access and haul roads at intervals specified in the air quality permit. Chemicals utilized for dust control will be handled in accordance with industry standards and applicable state and federal regulations. If practical, disturbed areas will be revegetated on an interim basis to minimize exposed surfaces.

2.4.8 Concurrent Reclamation

Concurrent reclamation reduces erosion, provides early impact mitigation and reduces final reclamation work. Graymont has and intends to optimize the amount of concurrent reclamation within the permit areas. This will allow larger-scale testing of grading, reclamation cover placement, and revegetation techniques. After storm events, Project components will be inspected and evaluated to ensure that the components are maintained in an environmentally sound manner.

2.4.9 Cultural Resources

Class III cultural resources inventory surveys have been performed for the disturbance areas. Sites that may be considered potentially eligible for the National Register of Historic Places will either be avoided or mitigated in accordance with Section 106 procedures. If construction or mining activities uncover human remains, Graymont will follow procedures described in the Native American Graves Protection and Repatriation Act.

2.4.10 Wildlife

Raptor surveys have been conducted within the permit areas. Since active raptor nests have not been identified in the permit areas, Graymont will not need to implement procedures to mitigate or avoid direct impact to nests prior to the beginning of construction.

Surveys for special status species of plants and animals have been conducted for the permit areas. Graymont will not need to implement procedures to mitigate or avoid direct impact to special

3. Reclamation and Closure

3.1 Introduction

Reclamation of disturbed areas resulting from permitted activities will be completed in accordance with federal and state regulations. The Utah Mined Land Reclamation Act of 1975, Title 40, Chapter 8 of the Utah Code Annotated states that "Mined land should be reclaimed so as to prevent conditions detrimental to the general safety and welfare of the citizens of this state and to provide for the subsequent use of the lands affected" (40-8-2).

Reclamation and closure planning are anticipated to be ongoing processes based on Graymont's historical experience at the Poison Mountain Permit Area. The following subsections present a summary of conceptual reclamation and closure of the quarry areas and associated roads as approved in the existing permits.

3.2 Land Uses

Major land uses occurring in the permit areas include wildlife habitat, grazing, and recreation. Following closure, the permit areas will continue to support the same land uses. Post-closure land uses are in conformance with the Millard County zoning ordinances.

3.3 Reclamation Goals and Objectives

The goals of the Cricket Mountain reclamation program are to minimize the disturbance to the environment and to restore disturbed areas similar to the pre-disturbance state. The objectives of the reclamation program are:

- To establish surface growth media conditions conducive to the regeneration of a stable plant community through stripping, stockpiling, and reapplication of growth media or screened undersize limestone and dolomite material;
- To revegetate disturbed areas with a diverse mixture of plant species in order to establish long-term productive plan communities compatible with existing land uses; and

- To maintain public safety by stabilizing or limiting access to land forms that could constitute a public hazard.

3.4 Summary of Disturbance

The existing disturbance, those areas authorized for disturbance, and proposed disturbance are discussed in sections 1 and 2 and are summarized in Table 2-1. The disturbance areas can be divided into the following categories: quarries, overburden and fines piles, roads, stockpiles, and ancillary disturbance. Details regarding reclamation of disturbed areas are provided in the following sections.

3.5 Site Stabilization and Configuration

The permit areas will be stabilized to the extent practicable, to minimize future impacts to the environment and protect air and water resources. Stable areas of the quarry slopes will be left in place to provide nesting areas for birds. Erosion will be controlled by revegetation, the placement of riprap, or other best management practices.

3.6 Drill Holes

Drill holes drilled as part of mining activities will be plugged in accordance with UDOGM rule R467-4-108.

3.7 Site Specific Closure and Reclamation

3.7.1 Quarries

The limestone and dolomite is competent material that naturally forms cliffs in excess of 100 feet high in the surrounding area. Based on experience at the Poison Mountain Permit Area and natural topographic features in the area, the highwalls constructed in competent limestone are anticipated to be stable. Stable sections of the highwalls will be left in place. The slope angle of unstable areas or areas showing significant deterioration will be managed through selective blasting or other methods to mitigate safety hazards.

A berm of large quarry boulders will be placed across vehicular access points to the quarry to prevent public access. Berms or other measures will be used above the highwalls to prevent access to the highwall slopes. These safety measures will be constructed as the final uppermost benches are mined out. The access to benches no longer being used will also be restricted. Quarry materials or boulders will be used to create rock berms around the quarry perimeter, where feasible. Berms will be approximately three feet high, up to two feet wide at the crest, and up to ten feet wide at the base.

Warning signs will be placed where quarry slopes are located. The placement of the warning signs will be in a location that is visible from more than one viewpoint, and multiple signs will be placed in areas where signage would not be visible from more than one viewpoint.

Material excavated from the quarry areas will be a typical carbonate-rock composition, and the major constituents will be calcite, dolomite, and silica.

Poison Mountain

The Poison Mountain Quarry is made up of a series of 20-foot high working faces separated by benches ranging from 40- to 60-feet wide, which results in an overall highwall configuration with an average slope of 20 degrees. Approximately 90 percent of the disturbed area within the Poison Mountain Quarry is comprised of bench surfaces and quarry roads. The remaining ten percent is comprised of working faces within the quarry that average about 20 feet in height and that will not be reclaimed. If, during the life of mine or reclamation period, the working faces show signs of toe failure, slope failure, or block flow, Graymont will reduce the slope of the working face to a 2H:1V slope angle in the unstable area and revegetate the area in the same manner as the benches.

The existing permit indicates that quarry benches will be covered with a minimum of six inches of reject fines, and growth media will not be placed on the reclaimed benches. In most cases, however, growth media has been placed on the benches and revegetation has been successful. This practice will continue with available growth media. Inter-ramp haul roads within the quarry perimeter will be left in place and reclaimed in the same manner as benches or will be removed at the completion of mining.

Flat Iron

Salvageable growth media in the Flat Iron Permit Area is very limited. The existing permit does not require the quarry benches to be reclaimed; however, Graymont is reclaiming these benches with the growth media that is available.

Dolomite

Salvageable growth media in the Flat Iron Permit Area is very limited. The existing permit does not require the quarry benches to be reclaimed; however, Graymont is reclaiming these benches with the growth media that is available.

Allsop

Quarry slopes will be 1H:1V or shallower, and the height of the overall quarry slope will be approximately 400 feet. The slope angle of unstable areas or areas showing significant deterioration will be managed to mitigate safety hazards.

Salvageable growth media in the Allsop Permit Area is very limited. Quarry benches and floors will be reclaimed if sufficient growth media is available.

Fingers

Quarry slopes will be 1H:1V or shallower, and the height of the overall quarry slope will be approximately 480 feet. The quarry slopes will be benched, and no unstable areas are anticipated.

Quarry roads, benches, and floors will be reclaimed if sufficient growth media is available. Safety berms and boulders will be used to restrict access to the quarry slopes.

If needed, energy dissipaters will be installed during reclamation where the larger drainage enters the quarry to slow the flow of water and prevent erosion in reclaimed areas. Water that enters the quarry will soak into the benches or backfill areas or evaporate from puddles. Entergy dissipaters may include a berm of sized rock or other appropriate measures.

Big Sage

In most cases, the final quarry slopes will range from seven to 25 degrees. There may be some locations where the hanging wall is exposed in which the average final quarry slope will be approximately 45 degrees. However, most of the areas where the slope is 45 degrees will be

backfilled, and the slopes will be buried. The quarry slopes will be benched, and no unstable areas are anticipated. Portions of the quarry will be backfilled with overburden and fines. Material excavated from the quarry areas will be a typical carbonate-rock composition, and the major constituents will be calcite, dolomite, and silica.

3.7.2 Roads

Access and haul roads outside the perimeter of the Poison Mountain Quarry will be regraded, and compacted surfaces will be scarified to a depth of 12 inches. A minimum of four inches of growth media will be spread over the disturbed area.

The haul roads at the Flat Iron and Dolomite permit areas will be reclaimed. The majority of the roadways will be regraded, compacted surfaces scarified to a depth of 12 inches, covered with a four- to seven-inch layer of growth media and seeded. If growth media resources are limited, haul roads in the Flat Iron Permit Area will not be covered with growth media prior to seeding. Access into the quarry areas will be restricted; however, haul roads in the quarry area will not be reclaimed.

Haul road disturbance associated with the Allsop, Fingers, and Big Sage permit areas will be reclaimed. The existing quarry access road on the east side of the Allsop Permit Area will be reclaimed to the original size. Reclamation of the haul roads and access roads will include regrading and scarifying compacted surfaces to a depth of at least two feet. The distance of the ripper shanks will not exceed three feet.

Roads that are used to access disturbed areas during reclamation will be graded as necessary. Roads and safety berms will be recontoured or regraded to approximate the original ground surface prior to disturbance. Swales that will no longer be needed will be regraded, and unneeded culverts will be removed. Drainage crossings will be recontoured in such a manner as to be stable during normal precipitation and snowmelt events.

3.7.3 Overburden and Fines Piles

Poison Mountain

The overburden piles at Poison Mountain have been released. The fines pile at the Poison Mountain Permit Area will be constructed in a stable configuration with lifts offset by benches. The top and terraces of the pile will be covered with a four to six inch layer of soil and seeded.

Flat Iron

At the Flat Iron Permit Area, overburden disposal areas will be built with lifts approximately 40 feet high offset by benches approximately 25 feet wide. The disposal area slopes between the benches at angle of repose will be left "as is", and the tops will be covered with a four-inch to six-inch layer of growth media and reseeded.

Dolomite

The fines pile at the Dolomite Permit Area will contain screened undersize material produced during quarry operations. The fines will be used for road repair and maintenance, for kiln feed stone, or may be sold. The slopes of the fines pile will be regraded to 3H:1V. The pile will be covered with a minimum of six-inches of growth media and seeded.

Allsop

As salvageable growth media in the Allsop Permit Area is limited, the overburden disposal terrace faces will be left at angle of repose. During reclamation, sloped surfaces having the potential to experience accelerated erosion will be contour furrowed. Only the benches and tops

will be covered with a layer of growth media and seeded. The overburden disposal areas will not contain deleterious or acid-forming materials.

Fingers

The flat areas of the overburden piles will be covered with a layer of growth media and seeded. In some areas, the slopes on the overburden piles may be left at angle of repose in a configuration which is stable. During reclamation, sloped surfaces having the potential to experience accelerated erosion will be contour furrowed, if necessary. At this time, Graymont does not anticipate any areas that will require contour furrowing. Contour furrowing will only be conducted on overburden piles that are constructed by end dumping. Slopes of the piles that are contoured to an angle that is safe for equipment to work will be covered with a layer of growth media and seeded. If sufficient growth media is available, growth media will be pushed from the edge of the flat areas onto the slopes to the extent safe and practical in areas where slopes are too steep for equipment to work safely. Seed will be cast from the flat areas onto the slopes to the extent safe and practical. Final slopes will be blended into the surrounding natural topography, where practical. The overburden piles will not contain deleterious or acid-forming materials.

Big Sage

The overburden/fines piles will be reclaimed in a similar manner as the overburden piles at the Fingers Permit Area.

3.7.4 Buildings, Equipment, Piping, Scrap, Reagents, and Other Materials

Temporary facilities, such as portable toilets, diesel fuel tanks, and lubricant containers, will be removed from the permit areas during reclamation activities. Diesel fuel and lubricants will be disposed of in the appropriate manner and appropriate locations off-site.

During final mine closure, buildings, conveyors, and structures will be dismantled, and materials will be salvaged or removed to an off-site landfill or other appropriate disposal site. Concrete foundations and slabs, including re-bar, will be broken up using a track-hoe-mounted hydraulic hammer or similar methods and buried in place under approximately two feet of growth media and/or fines in such a manner to prevent ponding and to allow vegetation growth. Re-bar will be sufficiently buried to prevent a safety hazard. After demolition and salvage operations are complete, the disturbed areas will be covered with growth media and seeded.

Reagents and explosives will be removed for use as product at other mines, or appropriately disposed. Surface pipelines will be removed, typically for salvage. Underground pipeline ends will be capped/plugged and buried in place.

Waste materials stored in the "bone yard" located within the Facility Area will be removed at closure and disposed of in an approved off-site landfill or sent to appropriate recycling facilities, if available. Used oil and coolant will be removed for recycling or disposal in accordance with state and federal regulations by a licensed firm. Solid waste will be shipped off-site to a local industrial landfill.

3.7.5 Material Stockiles

Material stockpiles are being reclaimed as possible during the course of mining.

~~3.7.5~~3.7.6 Storm Water Controls

The storm water berms located around the overburden disposal areas and growth media stockpiles at the Allsop Permit Area will be recontoured to approximate original surface topography, and

pre-mining flow patterns will be returned to approximate the original state. The recontoured berm areas will be revegetated.

At the Big Sage Permit Area, storm water controls in the growth media stockpile area will be reclaimed, and a swale will be excavated in the location of the pre-mining ephemeral drainage. The swale will be excavated to approximate pre-mining topography, and the swale will be constructed in such a manner as to be stable during normal precipitation and snowmelt events. Pre-mining flow patterns will not be returned to the original state, but the storm water controls will be constructed in such a manner that the drainages will be stable.

Post-mining topography will be constructed so that features created by mining operations, such as the overburden/fines piles, will be stable. Benches will be included in reclaimed features. During reclamation, sloped surfaces that are more likely to experience accelerated erosion will be contour furrowed.

~~3.7.6~~3.7.7 Growth Media and Vegetation

The thickness of growth media used during reclamation of the permit areas will depend on the amount of growth media available. In general, the growth media within the Amtoft-Amtoft very shallow-Lodar Association is thin and contains excessive quantities of gravel (in some cases greater than 60 percent) and reach bedrock at approximately 18 inches or less (SCS 1984). Soils within the Dera-Dera sandy loam association reach bedrock at greater than 60 inches but tend to contain greater than 35 percent gravel in subsurface horizons. A site reconnaissance performed by SRK in May 2007 confirmed that growth media was generally shallow. Sodic growth media was not observed although SCS data indicated that sodic growth media may be present. Graymont will remove salvageable growth media within the area of disturbance.

According to the *Soil Survey of Part of the Fairfield – Nephi Area* (SCS 1984), the disturbance area will impact growth media of the Amtoft-Amtoft very shallow-Lodar and the Dera-Dera sandy loam growth media associations. For reclamation activities, the following assumptions were used:

- growth media will not be borrowed or imported from off-site sources;
- quarry benches and floors will be reclaimed if sufficient growth media resources are available;
- portions of haul roads that extend into the quarries will be reclaimed if sufficient growth media resources are available; and
- Graymont will salvage available growth media and will apply for a variance if sufficient growth media is not found.

~~3.7.7~~3.7.8 Revegetation

Table 3-1 presents the approved seed mix that will be used in the permit areas. The seed mixture to be used may be changed if commercial seed is not available and the new mix is approved by UDOGM.

Table 3-1: Reclamation Seed Mix

Seed	Percentage	Lbs PLS in 12 lbs/ac basis
Hycrest' crested wheat grass	12	1.44
Luna pubescent wheat grass	24	2.88
Bozoisky Russian wildrye	24	2.88
Koshia Prostrata	4	0.48
Yellow sweetclover	12	1.44
Shadscale - VNS	12	1.44
Fourwing Saltbrush - VNS	12	1.44

Mulching and other amendment requirements will be based on the experimental revegetation program and the reclamation experience obtained from the Poison Mountain Permit Area.

Seeding methods utilized at the permit areas will depend on many factors including the topography, growth media conditions, and seed mixture. Typically, some combination of broadcast seeding, drill seeding, and hydroseeding will be used for mine reclamation. Seeding will take place in the fall, October or November. Compacted areas will be ripped to a depth up to two feet prior to seeding. Uncompacted areas requiring revegetation will be scarified as needed to create a suitable seedbed.

3.8 Reclamation Schedule

Regrading and reclamation will take place in areas permanently decommissioned prior to final closure. Final reclamation will begin after mining on all remaining disturbed areas. Reseeding will be performed in October or November, as per UDOGM guidance.

3.9 Monitoring

Monitoring will be conducted to check revegetation success and erosion control. Monitoring will take place periodically during the growing season and following extreme storm events.

Revegetation success will be determined by monitoring the amount of ground cover, and comparing this value to one or more reference areas. Revegetation will be considered accomplished as per UDOGM Mineral Reclamation Rules (R-647-4) when the revegetation has achieved 70 percent of the pre-mining vegetation cover in the reference area. The survival of the vegetation for three growing seasons following seeding will be the time-criteria for defining revegetation success.

3.10 Safety and Site Control

Warning signs will be placed near reclamation work areas as appropriate. Warning signs will be highly visible, easy to read, and easy to understand. Signs that become faded and worn will be replaced.

3.11 Concurrent Reclamation

Concurrent final reclamation will take place as soon as practical and safe after mining is completed. Portions of haul roads no longer required will also be reclaimed. Area disturbed by growth media stockpiles will be reclaimed after the growth media is used in reclamation of the above areas.

3.12 Interim Reclamation

In the event that continuous, full-scale production is interrupted due to economic considerations or unforeseen circumstances, interim reclamation may be initiated. Interim reclamation is outlined below:

- *Power Lines:* The power lines to the crushing and screening facilities will be inspected regularly and maintained as necessary.
- *Roads:* The haul roads will receive routine maintenance.
- *Quarries:* Safety berms or fences will be placed to help restrict access to quarry areas.
- *Erosion Control Measures:* All erosion control measures and BMPs will be regularly inspected and maintained.
- *Buildings:* Building, equipment, and support facilities will be protected from public access and maintained as necessary.

3.13 Variances

In the Poison Mountain Permit Area, variances have been granted for highwalls and for road reclamation (Braxton 1989). Average highwalls within the Poison Mountain Quarry may range from 58 to 82 degrees with working slopes between 22 degrees and 55 degrees with the following provisions:

- If during the life-of-mine or reclamation period, the highwalls show signs of toe failure, slope failure, or blow flow, Graymont will correct the problem by reducing the slope of the highwall to a maximum 45 degree angle in the problem area. Corrected areas are subject to revegetation.
- Before growth media placement, compacted benches must be ripped/scarified to a depth of at least 12 inches.

The UDOGM has granted a variance from road reclamation which the BLM has approved for this site (Braxton 1989). Specifically, the main roadway to the first switchback in the quarry has been granted a variance. In addition, roads having a legitimate post-mining land use need not be reclaimed.

Although no highwalls are anticipated to be left at the Allsop Quarry, a variance to leave highwalls in place was granted for a portion of the Allsop Quarry that was permitted in October 2006. If limestone highwalls will remain, updated reclamation maps will be submitted to UDOGM, and the highwalls will be evaluated for stability. If necessary, erosion and sediment controls will also be revisited.

4. Surety

4.1 Introduction

The reclamation surety estimates for the disturbances at the Cricket Mountain Mine provide for third-party costs required to reclaim the disturbances as required by the Utah Administrative Code R647-4-113. Costs have been provided for earthwork, revegetation, equipment mobilization/demobilization, contingency, and escalation.

4.2 Labor, Equipment, and Material Costs

Equipment operator and labor rates have been separated from equipment costs. Labor rates, including fringe, are based on Davis Bacon Wage Rates for Heavy Construction Projects in Millard County (UT 20080071), October 10, 2008. Equipment rental rates are based on Wheeler Machinery Company rental rates published for 2009 plus operating costs, which include diesel fuel at $1.32 per gallon, lubrication, and wear items.

Material costs are separated from equipment and labor costs. Seed costs are based on the approved broadcast seed mixes for the Cricket Mountain Mine and are provided by a local seed company.

Seeding costs are based on broadcast seeding and include labor and rental of a manual broadcast seeder. Equipment operator costs are not associated with broadcast seeding because the manual broadcast seeder will be attached to the back of a dozer during the scarifying process.

4.3 Earthwork, Equipment Performance, and Production

Equipment selection is based on suitability and efficiency for each task. Each piece of equipment has standard productivity specifications under varying circumstances, such as grade, operator skill, and rolling resistance; productivity is based on the Caterpillar Handbook, 35th Edition (2005). Equipment fleets and productivities used for reclamation surety calculations are provided in the spreadsheets located in Appendix A.

4.4 Equipment Mobilization/Demobilization

The *2009 Rental Rate Guide* and freight charge quotes from Wheeler Machinery Company (the CAT Rental Store in Salt Lake City, Utah) are utilized to determine mobilization and demobilization costs. Mobilization costs assume that equipment will be mobilized once and distributed throughout the permit areas as necessary to achieve reclamation goals within a 12-month timeframe. The following equipment is utilized:

- One large dozer (CAT D10);
- One medium dozer (CAT D9);
- One large excavator (CAT 385)
- One small excavator (CAT 325);
- Four scrapers (CAT 631G);
- One motor grader (CAT 16H);
- One 70-ton crane;
- One large wheel loader (CAT 992G);
- One 8,000-gallon water truck (CAT 621E); and
- One haul truck (CAT 777D).

The D10 dozer will be used for regrading/recontouring, and the D9 dozer will be used for recontouring/regrading as well as ripping, scarifying, and assisting with growth media replacement. The fleet of D9 dozer, scrapers, grader, and water truck will be utilized for growth media placement. The grader will also be utilized for minor regrading. The 992G wheel loader and the 777D haul truck will be used for quarry berm construction, and the small excavator will be used for culvert removal. The large excavator will be utilized for concrete and building demolition, and conveyor removal will be accomplished with a crane.

4.5 Monitoring

Revegetation monitoring costs assume a range specialist makes a trip to the Cricket Mountain Mine once per year for a period of three years to determine revegetation success. Costs associated with the range specialist site review and report writing are based upon an hourly rate of $95.45 for 40 hours per year. Travel costs to the permit areas are estimated at eight hours of travel time for the 400-mile round trip from Salt Lake City, Utah with truck costs at $20.96 per hour ($17.88 per hour rental and $3.08 per hour fuel/lube/wear). The range specialist will conduct a site review of each permit area during the same trip; therefore, monitoring costs are only accounted for once (Poison Mountain spreadsheet).

4.6 Earthwork, Equipment Performance, and Production

Equipment selection is based on suitability and efficiency for each task. Each piece of equipment has standard productivity specifications under varying circumstances, such as grade, operator skill, and rolling resistance; productivity is based on the Caterpillar Handbook, 35th Edition (2005). Equipment fleets and productivities used for reclamation surety calculations are provided in the spreadsheets located in Appendix A.

4.7 Reclamation Costs for Each Category

Reclamation activities will be undertaken for mining located on private and state lease land. Each spreadsheet in Appendix A details the reclamation activities that will occur by permit area, and the following sections include descriptions for the physical characteristics, equipment, and revegetation. Assuming sufficient growth media is available, the overall permit areas will be revegetated to meet 70 percent of the pre-mining vegetative cover.

The Big Sage Permit Area cost estimate differs from the other permit areas because permitted buffer zones are not expected to be 100 percent disturbed in the Big Sage Permit Area. The Big Sage Permit Area contains 638.5 acres, of which 543.1 acres is estimated to actually be disturbed because the Big Sage Permit Area includes buffer zones (142.6 acres) around each component to account for access and unforeseen disturbance requirements. Estimated actual disturbance within the buffer zones is estimated at 33 percent. As such, the surety calculation only includes reclamation costs for 47 acres associated with buffer zones; however, if more disturbance is planned within the buffer zones, Graymont will increase the surety accordingly prior to disturbance.

At the Big Sage Permit Area, costs are included for 510.8 acres because the quarry bench faces will not be reclaimed (32.5 acres). Table 4-1 presents the acreages by mine component within the Big Sage Permit Area, the disturbance acreages, and the reclamation acreages.

Table 4-1: Big Sage Surface Disturbance

Component	Permit Area (acres)	Disturbance Area (acres)	Reclamation Area (acres)
Quarries	395.2	313.8	281.5
Overburden/Fines Piles	119.4	105.4	105.4
Facility Area	58.6	58.6	58.6
Roads	46.6	46.6	46.6
Growth Media Stockpile	~~18.7~~ 20.7	~~18.7~~ 20.7	~~18.7~~ 20.7
Total	~~638.5~~ 640.5	~~543.1~~ 545.1	~~510.8~~ 512.8

4.7.1 Overburden and Fines Piles (Spreadsheet A)

Poison Mountain

In accordance with the 1996 Permit Revision, the fines pile will not be recontoured. Only the top will be ripped/scarified, covered with growth media, and seeded (32 acres).

Flat Iron

In accordance with the 1996 Permit Revision, the overburden disposal areas will not be recontoured. Only the tops will be ripped/scarified, covered with growth media, and seeded (57 acres).

Dolomite

The side slopes of the fines pile will be recontoured (approximately 12 acres), and the entire pile will be ripped/scarified, covered with growth media, and seeded.

Allsop

Overburden piles will be constructed at the overall final reclaimed slope. The tops and benches of the overburden piles will be covered with a layer of growth media and broadcast-seeded. In some areas, the slopes of the overburden piles will be left at angle of repose in an overall configuration which is stable. Slopes of the piles that are at angle that is safe for equipment to work will be covered with a layer of growth media and seeded. Based on overburden pile design, approximately 25.5 acres will be ripped, scarified, and seeded.

Fingers

Overburden piles at the Fingers Permit Area will be constructed at the overall final reclaimed slope. Final slopes will be blended into the surrounding natural topography, where practical. Contouring is estimated to be completed on approximately 39 acres of the overburden piles and the quarry backfill areas; the volume of overburden to be contoured is estimated at 62,920 cubic yards (cy).

The tops of the overburden piles will be covered with a layer of growth media and broadcast-seeded. In some areas, the slopes of the overburden piles will be left at angle of repose in an overall configuration which is stable. Slopes of the piles that are at angle that is safe for equipment to work will be covered with a layer of growth media and seeded. The disturbance associated with the overburden piles will be covered with growth media, scarified, and seeded as shown in Spreadsheet A. Costs for ripping and seeding the quarry backfill areas are included in Spreadsheet C.

Big Sage

Overburden/fines piles will be constructed at the overall final reclaimed slope. Final slopes are blended into the surrounding natural topography, where practical. Contouring is estimated to be completed on approximately 90 acres of the overburden/fines piles and the quarry backfill areas.

The Big Sage Permit Area consists of 119.4 acres for the overburden/fines piles, which includes 98.3 acres of disturbance from the overburden/fines piles and 21.1 acres of buffer zone around the pile perimeters. Up to 33 percent (seven acres) of the buffer zone for the overburden/fines pile is anticipated to be disturbed as part of mine operations. Therefore, the bonded area for the overburden/fines piles is 105.4 acres. If additional disturbance within the overburden/fines piles buffer zones is planned, the surety will be updated accordingly.

The tops of the overburden/fines piles are covered with a layer of growth media and broadcast-seeded. In some areas, the slopes of the overburden/fines piles may be left at angle of repose in an overall configuration which is stable. Dumped overburden is not a source of rockfall. Slopes of the piles that are at an angle that is safe for equipment to work are covered with a layer of growth media and seeded. Growth media is pushed over the edge of the flat area onto the steep slopes to the extent safe and practical, and seed is cast over the edge of the flat area onto the slopes to the extent safe and practical. Growth media placement and seed costs are included for the entire disturbance area associated with the overburden/fines piles. Spreadsheet A presents contouring, scarifying, and seeding costs. Costs for ripping/scarifying and seeding the quarry backfill areas are included in Spreadsheet C.

4.7.2 Yards and Stockpiles (Spreadsheet B)

Spreadsheet B provides reclamation costs for yards, stockpiles, and ancillary disturbance. Costs include regrading as applicable, ripping/scarifying, growth media placement, and broadcast seeding.

Growth media will not be salvaged from the growth media stockpile disturbance areas during construction activities. Removal of growth media from the stockpile areas for placement on contoured/regraded areas will be conducted in such a manner as to produce topography similar to the pre-mining topography and to leave sufficient growth media to support revegetation without conducting additional earthworks. Therefore, costs for contouring growth media stockpiles are not included in the surety calculation. Costs for scarifying and seeding the entire growth media stockpile area are included in the surety calculation.

4.7.3 Quarries (Spreadsheet C)

Bench faces in the quarries will be nearly vertical; therefore, bench faces will not be ripped and seeded. Approximately 90 percent of the quarries will be ripped and seeded.

Where the underlying topography is level enough to allow equipment to safely operate, berms will be constructed around the quarry perimeter to prevent public access to the quarry. The quarry berm cost estimate includes use of a CAT 992 wheel loader and a CAT 777D haul truck to load and haul rock materials from the quarry to the perimeter. To determine the volume of rock to be moved, berm construction was estimated at approximately three feet high at angle of repose with a crest width of one foot. The wheel loader will be used to shape the berms after the haul truck dumps the rock in the appropriate location.

At the Dolomite Permit Area, the estimated quarry berm length is approximately 2,000 feet, and average haul distances are estimated at 2,000 feet. At the Allsop Permit Area, the estimated quarry berm length is approximately 7,000 feet with average haul distances estimated at 4,500 feet. The estimated berm length at the Fingers Permit Area is approximately 4,500 feet, which includes placement of an energy dissipater, and average haul distances are estimated at 2,000 feet. Due to geometry, original surrounding topography, and/or quarry backfilling, quarry berms will not be constructed at the other permit areas.

The Big Sage Permit Area contains 395.2 acres for the quarries (including interior roads), which includes 273.7 acres of quarry disturbance and 121.5 acres of buffer zone around the quarry perimeters. Up to 33 percent (40.5 acres) of the buffer zone for the quarries is anticipated to be disturbed as part of mine operations. If additional disturbance within the overburden/fines piles buffer zones is planned, the surety will be updated accordingly.

Bench faces in the quarries at the Big Sage Permit Area are nearly vertical; therefore, bench faces are not reclaimed. Bench faces comprise approximately 32.5 acres (approximately ten percent) of disturbance within the quarry areas. Costs are included for reclaiming 281.3 acres within the quarry areas at the Big Sage Permit Area.

4.7.4 Haul Roads (Spreadsheet D)

Roads without a defined post-mining land use will be reclaimed by recontouring/regrading with a CAT D9-class dozer and a motor grader or similar equipment. Regrade volume calculations are shown on Spreadsheet D1. Road surfaces will be covered with growth media, ripped, and broadcast-seeded. The new roads for Big Sage have been added to the worksheet.

4.7.5 Miscellaneous (Spreadsheet E)

Structures within the Poison Mountain and Big Sage permit areas include pipelines, power lines, substations, diesel fuel storage, gasoline storage, explosives magazines, and water storage. Structure demolition and disposal costs are determined from 2009 RS Means Heavy Construction Cost Data; power line and substation removal costs are provided by Sierra Pacific Power Company.

Maintenance costs are based on revegetation of ten percent of acres vegetated during active reclamation. The amount of required revegetation is based on historical reclamation experience at the Cricket Mountain Mine.

Costs are provided for removal of culverts within each permit area. Culvert removal costs are based on the use of a CAT 325 excavator, one operator, and two laborers for four hours per culvert. The culvert size is assumed to be 36 inches in diameter.

RS Means Heavy Construction Cost Data is used to estimate solid waste removal, hazardous waste removal, and hydrocarbon contaminated soils removal. Dumpster rental costs are based on renting one dumpster for three months and removing the dumpster at the end of active reclamation. Up to 8,000 gallons of waste oil are transported from the Poison Mountain and Big Sage permit areas (4,000 gallons from each permit area) to nearby facilities in accordance with current practice. The nearby facilities are located approximately seven miles from the Poison Mountain Permit Area. Costs are included for removal of up to 50 cy (25 cy from Poison Mountain and 25 cy from Big Sage) of hydrocarbon contaminated soil to a landfill during active reclamation.

Costs are provided for removing sections of conveyor assuming that dismantled conveyors are removed from the Poison Mountain and Big Sage permit areas by a scrap dealer or purchaser on dealer-owned trucks. A 70-ton crane is utilized to dismantle conveyor sections, and conveyor dismantling costs include the crane rental cost, the crane operator, and four laborers. Equipment hours are estimated based on two hours per 100-foot section, with a minimum of two hours per section, and equipment hours are rounded to the nearest whole hour. Conveyor footing rubblization costs are provided in Spreadsheet F.

4.7.6 Foundations (Spreadsheet F)

Concrete foundation and footing demolition costs include rubblization utilizing a CAT 385 excavator with an 11,000 foot-pound hydraulic impact hammer. Estimated concrete volumes are based on asbuilt measurements. Rubblized concrete is buried under two feet of growth media or limestone fines as provided in Spreadsheet B.

4.7.7 Building Demolition (Spreadsheet G)

Building demolition costs are based on RS Means Heavy Construction Cost Data and include haulage from the Poison Mountain and Big Sage permit areas. Overhead and profit is provided in the Summary spreadsheet as an indirect cost. To provide a conservative cost estimate, building dimensions are rounded to the nearest foot and assume square or rectangular building shapes even though various building shapes may be utilized.

4.7.8 Summary

The reclamation cost summary spreadsheet provides a summary of reclamation by component. Individual costs are provided for equipment, labor, and materials. General site clean-up is estimated at one percent of the total direct costs. Indirect costs include contractor overhead and profit of ten percent and a contingency of ten percent. Escalation costs for five years at a rate of 3.8 percent per year are also included for a total surety estimate of $5,874,450. An increase of $730,360 from the $5,144,090 originally calculated.

Graymont will post a surety bond for the permitted components that will support current and near-term production. The partial surety amount is estimated at $4,745,356. An increase of $859,565 from the previous amount of $3,885,791. Minor rounding for bond areas were encountered for GIS and surveying improvements. The areas that will and will not be bonded at this time are shown in Figure 11, and a comparison of the total surety estimate to the partial surety estimate is provided in Appendix A. In the event that the mine plan changes to require

additional bonded areas before the next surety update, Graymont will post the incremental bond amount for individual components as calculated in Appendix A.

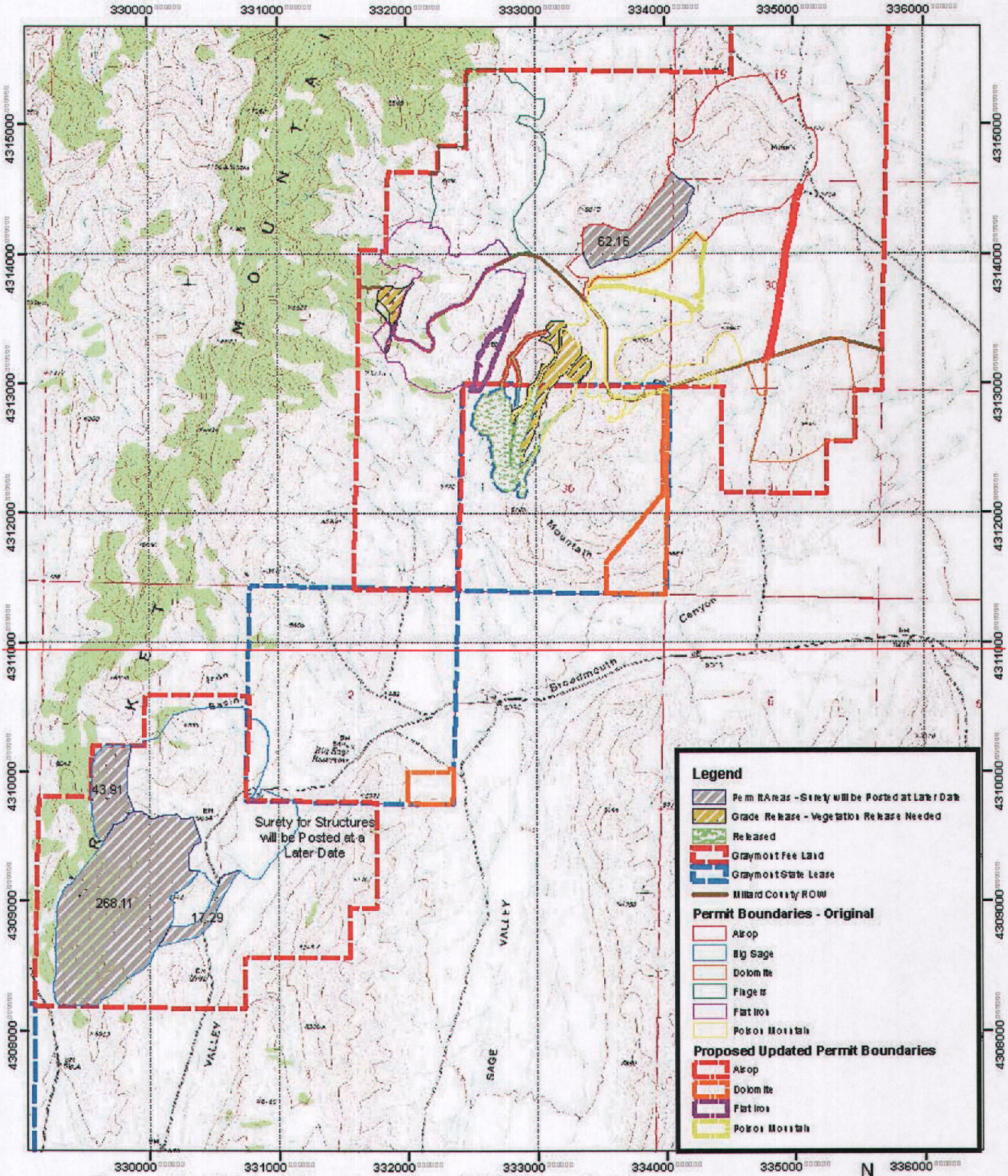
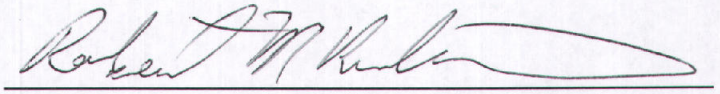


Figure 11 - Cricket Mountain Permit 2012 bonded Areas
UTM NAD 1927 Zone 12 North
Topograpic Base Map-USGS 7.5 minute series
December 1, 2012
Graymont Western US Inc.

5. Signature Requirement

Based on reasonable inquiry, and to the best of my knowledge, I certify that the information contained in this document is true and correct:



Robert M. Robison
Director, Mining and Geology
3950 South 700 East, Suite 301
Salt Lake City, UT 84107

Date: 26 Nov. 2013

6. References

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Appendix A

Reclamation Surety Calculations

GRAYMONT WESTERN U.S., INC.
CRICKET MOUNTAIN PROJECT
RECLAMATION COST SUMMARY

	SPREADSHEET/PROJECT COMPONENT	EQUIPMENT	LABOR	MATERIALS	TOTALS	PLAN VIEW ACRES
A	Overburden/Fines Piles	$656,878	$181,104	$26,431	$864,413	484.9
B	Yards and Stockpiles	$343,666	$90,703	$20,293	$454,662	255.4
C	Quarries	$1,394,518	$385,443	$71,119	$1,851,080	1077.2
D	Haul/Access Roads	$344,253	$80,282	$8,994	$396,425	113.2
E	Miscellaneous	$66,511	$83,764	$13,114	$163,389	2.2
F	Concrete Foundation Demolition	$10,777	$2,071	$0	$12,848	NA
G	Building Demolition and Disposal	$91,584	$70,449	$0	$162,033	NA
	Subtotal	$2,908,187	$893,816	$139,951	$3,904,850	1932.9
	General Site Clean-Up (1% of total: RS Means, 2007, 017413.200040, Site Work and Landscape Cost Data, 26th Edition)				$39,048	
	Mobilization/Demobilization				$118,656	
	Total Direct Costs				$4,062,554	
	Contractor Overhead and Profit (10%)				$406,255	
	Contingency (10%)				$406,255	
	Total with Indirect Costs				$4,875,065	
	Year 1 Escalation (3.8%)				$185,252	
	Year 2 Escalation (3.8%)				$192,292	
	Year 3 Escalation (3.8%)				$199,599	
	Year 4 Escalation (3.8%)				$207,184	
	Year 5 Escalation (3.8%)				$215,057	
	GRAND TOTAL				$5,874,450	1,932.9
					$/acre	$3,039.21
	Total Proposed Bond				$5,874,450	

GRAYMONT WESTERN U.S., INC.
CRICKET MOUNTAIN PROJECT
RECLAMATION COST SUMMARY

Hourly Rates for Labor

Operator	Base Rate (1)	Fringes	FICA (7.65% base)	SIIS (12.4%)	UIP (3% base rate)	Total ($)
Power Equipment Operator	$24.53	$12.71	$1.88	$3.04	$0.74	$42.89
General Laborer	$10.92	$0.00	$0.84	$1.35	$0.33	$13.44
Foreman (2)	$24.53	$12.71	$1.88	$3.04	$0.74	$42.89

(1) Base rates and fringes are from Davis Bacon Wage Rates for Heavy Construction Projects in Millard County (UT20080071), October 10, 2008.
(2) Supervisor rate is equal to highest power equipment operator rate in Davis Bacon Wage Rates for Heavy Construction Projects in Millard County (UT20080071), October 10, 2008.

EQUIPMENT RENTAL RATE TABLE EQUIPMENT TYPE	TOTAL HOURLY RATE	NOTES	RENTAL HOURLY RATE	FUEL/LUBE/WEAR HOURLY RATE
CAT D10T BULLDOZER	$251.38	1	$204.55	$46.84
CAT D9R/T BULLDOZER	$182.90	1	$146.59	$36.31
CAT 385CL EXCAVATOR	$195.12	1	$155.11	$40.00
CAT 325CL EXCAVATOR	$63.94	1	$46.59	$17.35
CAT 631G SCRAPER	$159.59	1	$113.07	$46.53
CAT 16H MOTORGRADER	$154.66	1	$110.80	$43.87
CAT 992G WHEEL LOADER	$332.77	1	$238.64	$94.13
CAT 621F 8KGAL WATER WAGON	$93.47	1	$71.02	$22.45
CAT 777 HAUL TRUCK	$227.32	1	$172.16	$55.16
70-TON CRANE	$83.51	2	$79.55	$3.97
BROADCAST SEEDER	$64.50	3	$64.50	$0.00

NOTES: Costs based on hours used
1. SOURCE: 2009 Wheeler CAT Rental Rates (4-week rental rates divided by 176 hours.)
2. SOURCE: Quote from Sterling Crane, February 2009.
3. SOURCE: Slater Seeding July 2007, adjusted to July 2008.

SEED COST ESTIMATE

SEED AMENDMENTS	APPLICATION RATE (lb PLS/ac)	COST ($/lb)	COST ($/ac)
Hycrest crested wheat grass	1.44		
Luna pubescent wheat grass	2.88		
Bozoisky Russian wildrye	2.88		
Koshia Prostrata	0.48		
Yellow sweetclover	1.44		
Shadscale - VNS	1.44		
Fourwing Saltbrush - VNS	1.44		
Subtotal	**12.00**		
Total $/acre			**$74.64**
Total $/acre w/ 6.45% sales tax for Lehi, Utah County, Utah			**$79.45**

Seed cost estimate as per Granite Seed, February 19, 2009 quote.
Individual seed costs were not provided.

EQUIPMENT MOBILIZATION TABLE

EQUIPMENT TYPE	RATE	Max Number	Total $
CAT D10T BULLDOZER	$5,900.00	1	$5,900.00
CAT D9R/T BULLDOZER	$2,222.00	2	$4,444.00
CAT 385CL EXCAVATOR (1)	$12,650.00	1	$12,650.00
CAT 325CL EXCAVATOR	$1,334.00	1	$1,334.00
CAT 631G SCRAPER	$2,222.00	4	$8,888.00
CAT 16H MOTORGRADER	$1,628.00	1	$1,628.00
CAT 992G WHEEL LOADER (1)	$12,650.00	1	$12,650.00
CAT 621E 8KGAL WATER WAGON	$1,334.00	1	$1,334.00
CAT 777 HAUL TRUCK (2)	$11,900.00	1	$11,900.00
70-TON CRANE (2)	$4,500.00	1	$4,500.00
		Total	$59,328.00

(1) Includes permits, 2 pilot cars, fall off load, assembly and disassembly of the bucket and stick per Wheeler Machinery Co.
(2) Sterling Crane, February 2009.

EQUIPMENT FUEL, LUBE, AND WEAR EQUIPMENT TYPE	PM COST PER HOUR (1)	UNDERCARRIAGE OR TIRES COST PER HOUR (2)	GROUND TOOLS CONSUMPTIO COST PER HOUR (3)	FUEL USE RATE GAL/HR	FUEL COST PER GALLON 1.32	TOTAL HOURLY EQUIPMENT OPERATING COST
CAT D10T BULLDOZER	$7.26		$15.77	18.00	$23.81	$46.84
CAT D9R/T BULLDOZER	$6.17		$11.29	14.25	$18.85	$36.31
CAT 385CL EXCAVATOR	$6.70		$10.16	17.50	$23.14	$40.00
CAT 325CL EXCAVATOR	$4.22		$4.40	6.60	$8.73	$17.35
CAT 631G SCRAPER	$5.97	$14.39	$6.33	15.00	$19.84	$46.53
CAT 16H MOTORGRADER	$4.78	$13.65	$15.52	7.50	$9.92	$43.87
CAT 992G WHEEL LOADER	$10.16	$28.02	$25.54	23.00	$30.42	$94.13
CAT 621F 8KGAL WATER WAGON	$5.24	$4.97	N/A	9.25	$12.23	$22.45
CAT 777 HAUL TRUCK	$9.87	$19.45	$3.36	17.00	$22.48	$55.16
70-TON CRANE	N/A		N/A	3.00	$3.97	$3.97

NOTES: Costs based on hours used
1. PM Source: July 2008 Cashman Equipment Rental Rate, Elko, NV.
2. Undercarriage Source: D & D Tire, Inc. 7/3/08.
3. Ground Engaging Tools Consumption Source: CAT Historical Data.
4. Fuel Use Source: Caterpillar Handbook, Edition 35, Ch. 20; or estimated average for smaller vehicles.

EQUIPMENT FUEL, LUBE, AND WEAR CALCULATIONS EQUIPMENT TYPE	# OF TIRES PER UNIT	COST PER TIRE	TIRE COST PER UNIT	TIRE LIFE (HOURS)	HOURLY TIRE COST PER UNIT
CAT D10T BULLDOZER	N/A				
CAT D9R/T BULLDOZER	N/A				
CAT 385CL EXCAVATOR	N/A				
CAT 325CL EXCAVATOR	N/A				
CAT 631G SCRAPER	4	$14,389.00	$57,556.00	4,000	$14.39
CAT 16H MOTORGRADER	6	$7,961.00	$47,766.00	3,500	$13.65
CAT 992G WHEEL LOADER	4	$31,519.00	$126,076.00	4,500	$28.02
CAT 621F 8KGAL WATER WAGON	4	$9,947.00	$39,788.00	8,000	$4.97
CAT 777 HAUL TRUCK	6	$16,206.00	$97,236.00	5,000	$19.45
70-TON CRANE	N/A				

NOTES: Costs based on hours used
1. Unit Cost Basis: Cost per Set.
2. Cost Basis: Total cost for all required tires.
3. Tire Cost Source: D & D Tire, Inc. 7/3/08
4. Tire Wear Source: Caterpillar Handbook, Edition 35, Ch. 20

CRICKET MOUNTAIN PROJECT - BIG SAGE — Revised: 12/10/2012

EARTHWORK / RECONTOURING

I. CATERPILLAR D9R BULLDOZER - UNIVERSAL BLADE PUSH CAT

		PUSH CAT				
	Production Rate					
(a)	Material Density (lb/cy)		2600			
(a)	Average Dozing Distance (ft)		50			
(e)	Maximum Production for dozing distance (cy/hr)		2200			
	Correction Factors					
(b)	Operator	Average	0.75			
(b)	Material	Average	1			
(b)	Job Efficiency	50 min/hr	0.83			
(c)	Weight Correction		0.884615385			
(b)	Grade Correction	0 : 1	1			
(d)	Total Correction Factor		0.55			
	Corrected production (cy/hr)		1211			
	Cost Rates					
	Bulldozing		$182.90			
	Operator		$42.89			
	Total Equipment		$225.79			

(a) Assumed 96 lbs/cu ft
(b) Acquired from the Caterpillar Performance Handbook, 35th Edition
(c) Determined using the Caterpillar Performance Handbook assuming a standard density of 2300 lb/cy : (2300 lb/cy)/ Actual Density) = Weight Correction Factor
(d) Total Correction Factor = Product (all correction factors)
(e) D9R will be used as a push cat and is reliant on the scrapers for production

EARTHWORK / RECONTOURING — Revised: 12/10/2012

II. CATERPILLAR D9R BULLDOZER - UNIVERSAL BLADE & MULTI-SHANK

		FLAT TERRAIN		SLOPED TERRAIN +3 : 1		RIPPING	
	Production Rate						
(a)	Material Density (lb/cy)		2600		2600	Ripper Width (ft)	7
(a)	Average Dozing Distance (ft)		100		150	Effective Ripping Width (ft)	11.54
(b)	Maximum Production for dozing distance (cy/hr)		1300		950	Operating Speed (mph)	1
	Correction Factors					Travel Length (ft/ac)	1900
(b)	Operator	Average	0.75		0.75	Two passes required	0.5
(b)	Material	average	1	loose	1.2	Production rate (ac/hr)	1.39
(b)	Job Efficiency	50 min/hr	0.83		0.83		
(c)	Weight Correction		0.885		0.885		
(b)	Grade Correction	0 : 1	1	3 : 1	1.66		
(d)	Total Correction Factor		0.55		1.10		
	Corrected production (cy/hr)		716		1042		
	Cost Rates						
	Bulldozing		$182.90		$182.90		$182.90
	Operator		$42.89		$42.89		$42.89
	Total Equipment		$225.79		$225.79		$225.79

(a) Assumed 96 lbs/cu ft
(b) Acquired from the Caterpillar Performance Handbook, 35th Edition
(c) Determined using the Caterpillar Performance Handbook assuming a standard density of 2300 lb/cy : ((2300 lb/cy)/ Actual Density) = Weight Correction Factor
(d) Total Correction Factor = Product (all correction factors)

EARTHWORK / RECONTOURING

III. CATERPILLAR D10T BULLDOZER - UNIVERSAL BLADE & MULTI-SHANK

		FLAT TERRAIN		SLOPED TERRAIN +3 : 1		RIPPING	
	Production Rate						
(a)	Material Density (lb/cy)		2600		2600	Ripper Width (ft)	7
(a)	Average Dozing Distance (ft)		100		150	Effective Ripping Width (ft)	10
(b)	Maximum Production for dozing distance (cy/hr)		1800		1300	Operating Speed (mph)	1
	Correction Factors					Travel Length (ft/ac)	4356
(b)	Operator	Average	0.75		0.75	Two passes required	0.5
(b)	Material	compacted alluvium	1	loose	1.2	Production rate (ac/hr)	0.61
(b)	Job Efficiency	50 min/hr	0.83		0.83		
(c)	Weight Correction		0.884615385		0.884615385		
(b)	Grade Correction	FLAT	1	3 : 1	1.66		
(d)	Total Correction Factor		0.55		1.10		
	Corrected production (cy/hr)		991		1426		
	Cost Rates						
	Bulldozing		$251.38		$251.38		$251.38
	Operator		$42.89		$42.89		$42.89
	Total Equipment		$294.27		$294.27		$294.27

(a) Assumed 96 lbs/cu ft.
(b) Acquired from the Caterpillar Performance Handbook, 35th Edition
(c) Determined using the Caterpillar Performance Handbook assuming a standard density of 2300 lb/cy : ((2300 lb/cy)/ Actual Density) = Weight Correction Factor
(d) Total Correction Factor = Product (all correction factors)

EARTHWORK / RECONTOURING - 631G SCRAPER

IV. CATERPILLAR 631G SCRAPER

		Topsoil Replacement			
	Production Rate				
(b)	Capacity (cu. yd.)		31		
(a)	Average Haul Distance (ft)		2600		
	Cycle Time				
(b)	Loading Time (min)		0.6		
(b)	Spreading Time (min)		0.7		
(b)	Loaded Haul Time (min)	8% Grade + 2% RR	3.9		
(b)	Empty Haul Time (min)	-8% Grade + 2% RR	1.5		
	Total time (min)		6.7		
	Cycles per Hour	(min/hr)/(min/cycle)	8.96		
	Production Rate (cy/hr)	Capacity*(Cyc/hr)	278		
	Correction Factors				
(b)	Operator	Average	0.75		
(b)	Load Factor	Earth - Dry, Packed	0.9		
(b)	Job Efficiency	50 min/hr	0.83		
(c)	Total Correction Factor		0.56		
	Corrected production rate (cy/hr)		156		
	Cost Rates				
	Scraper		$159.59		
	Operator		$42.89		
	Total Equipment		$202.49		

(a) Internal estimation based on known spoil and topsoil pile locations
(b) Acquired from the Caterpillar Performance Handbook, 35th Edition
(c) Total Correction Factor = Product (all correction factors)

EARTHWORK / RECONTOURING — Revised: 12/10/2012

V. CATERPILLAR 16 - H GRADER

		SCARIFYING		BLADING	
	Production Rate				
	Blade/Scarifying Width (ft)		9.75	16	
	Eff. Blade/Scarifying Width (ft)		9.75	16	
	Operating Speed (mph)		1.5	2.5	
	Travel Length (ft/ac)	(sf/ac)/eff. scar. width	4468	2722.5	
	Production Rate (acre/hr)	(speed*dist)/trav. lgth	1.82	3.03	
	Correction Factors				
(a)	Operator	Average	0.75	0.75	
(a)	Job Efficiency	50 min/hr	0.83	0.83	
(b)	Total Correction Factor		0.62	0.62	
	Corrected Production Rate (ac/hr)		1.13	1.88	
	Cost Rates				
	Grader		$154.66	$154.66	
	Operator		$42.89	$42.89	
	Total Equipment Cost		$197.56	$197.56	

(a) Acquired from the Caterpillar Performance Handbook, 35th Edition
(b) Total Correction Factor = Product (all correction factors)

EARTHWORK / RECONTOURING — Revised: 10-Dec-12

VI. CATERPILLAR 325CL EXCAVATOR

		DEMOLITION	REGRADING	
	Production Rate			
(a)	Capacity (lcy)		2.22 LCY	
	Fill Factor		0.9	
	Average Bucket Fill		2.00	
	Average Production (Cat Handbook for 1.88 LCY bucket)		480 LCY/hr	
	Job Efficiency		0.83	
	Production Factor		0.75	
	Average Production		299 LCY/hr	
	Cycles per Hour			
	Cost Rates			
	Excavator ($/hr)		$63.94	
	Operator ($/hr)		$42.89	
	Total Operating Cost ($/hr)		$106.83	

(a) Acquired from the Caterpillar Performance Handbook, 35th Edition
(b) Estimations based on actual experience

VII. REVEGETATION / STABILIZATION

Revised: 12/10/2012

	BROADCAST SEEDING
Production Rate	
	Manual Broadcast Seeder (a)
Effective Seeding Width (ft)	15
Operating Speed (mph)	0.75
Travel Length (ft/ac)	2904
Production Rate (ac/hr)	1.4
Seed Equipment Rate	$64.50
Amendment Equipment Rate	
Seed and Amendment Equipment Rate	$0.00
Labor	$13.44
Seed Mixture ($/ac)	$79.45
Amendments ($/acre)	

VIII. EARTHWORK / RECONTOURING EQUIPMENT COMBINATIONS

Revised: 10-Dec-12

Contour/Regrade Combinations Equipment	Total Productivity	Total Cost Equipment/Hour	Total Cost Labor/Hour
1 D10R-3 each; D9R-1	5320	$937.04	$171.58
2 1-D9R; 1-16H Grader (all production from dozer)	716	$337.56	$85.79
3 1-D9R dumps 150 ft push	1042	$182.90	$42.89
Growth Media Replacement / Fill Combinations			
1 631 Scraper-4 each; 16H Motor Grader; 8000-gallon Water Wagon; D9R Dozer-1 each	624	$1,069.41	$300.26
Rip			
1 D9R Dozer- acres per hour	1.39	$182.90	$42.89
Scarify Combinations			
1 1-D9R	1.39 ac/hr average	$182.90	$42.89
Fill Combinations			
1 631 Scraper-4 each; 16H Motor Grader; 8000-gallon Water Wagon; D9R Dozer-1 each	624	$1,069.41	$300.26

IX. 385CL EXCAVATOR WITH HYDRAULIC HAMMER

FOUNDATION/CONCRETE DEMOLITION

Revised: 10-Dec-12

Production Rate	Model 180 hydraulic hammer		
(a) Material Density (lb/cy)	assume concrete has average compressive strength of 25,000 psi		
(b) Average production	950	CY/8 hr	CAT handbook average production for massive formation
(b)			
Average operator	0.75		
50 min/hour	0.83		
Total	0.62		
Corrected production	591	CY/8 hr	
	73.9	CY/hr	
Cost Rates			
			Per CY
Excavator ($/hr)		$195.12	$2.64
Operator ($/hr)		$42.89	$0.58
Total Operating Cost ($/hr)		$238.00	$3.20
D10N for clean-up, smoothing and knock-down	equipment/hr	$251.38	$3.40
	labor/hr	$42.89	$0.58
Total Cost Equipment			$6.04
Total Cost Labor			$1.16

(a) Assumed 96 lbs/cu ft.
(b) Acquired from the Caterpillar Performance Handbook, 35th Edition

X. QUARRY BERMS

Revised: 10-Dec-12

	CAT 992	CAT 777	CAT 777
Load Production Rate			
(a) Material Density (lb/cy)	2600	2600	2600
(b) Capacity (cy)	15	76.9	76.9
Average Haul Distance (ft)	20	2,000	4,500
Average Haul Gradient (%)	0	8 uphill loaded	8 uphill loaded
Loaded Haul Speed (mph)		18	18
Empy Haul Speed (mph)		35	35
Cycle Time			
Average Load, Dump, Maneuver Time (min)	0.7 Per bucket		
Buckets per Loaded Truck	5		
Truck Maneuver Time (min)		0.7	0.7
Excavation Time (min)	3.5		
Loaded Haul Time (min)		1.3	2.8
Dump Time (min)		1.1	1.1
Empty Haul Time (min)		0.6	1.5
Total Cycle Time per Truck (min)		7.2	9.6
(b) Cycles per Hour	8	6	
Production per Hour (cy)	625	469	
Average Bucket Fill Factor	0.9	0.9	
50 min/hour	0.83	0.83	
Corrected Production (cy/hr)	469	352	
Cost Rates			
Equipment ($/hr)	$332.77	$227.32	$227.32
Operator ($/hr)	$42.89	$42.89	$42.89
Total Operating Cost for 992 with 777 ($/hr)	$645.88		

(a) Assumed 96 lbs/cu ft.
(b) Acquired from the Caterpillar Performance Handbook, 35th Edition

CRICKET MOUNTAIN PROJECT - POISON MOUNTAIN PERMIT AREA

Overburden Piles

Spreadsheet **A**

Revised: 12/10/2012

Overburden Pile Name	Map Acres
Fines Pile	60.5
Fines Pile Addition 2012	
Subtotal	60.5
Rip/Scarify/Seed Acres 32.0	

*Per 1996 Revision, growth media placement and seeding will only occur on the top of the Fines Pile.

	Contour/Regrade	Growth Media Placement	Rip/Scarify	Fill	Seed/Amendments	TOTALS
Equipment	(1)	(2) & (5)	(3)		(4)	-
Quantity	0 CY	48,803 CY (6)	32.0 AC	0 CY	32.0 AC	-
Production Rate	1,042 CY/HR	624 CY/HR	1.39 AC/HR	624 CY/HR	1.4 AC/HR	-
Time Required	0 HR	78 HR	23 HR	0 HR	24 HR	-
Unit Cost						
Equipment	182.90 $/hr	1,069.41 $/hr	182.90 $/hr	$1,069.41 $/hr	$64.50 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	$300.26 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-		-	$138	-
Cost/Unit Volume ($/cy)	$0.00	$2.19	-	-	-	-
Equipment Cost	$0	$83,413.69	$4,207	$0	$1,548	$89,168
Labor Cost	$0	$23,420.21	$987	$0	$322	$24,729
Seed Cost	$0	$0	$0	$0	$2,543	$2,543
TOTAL COSTS	$0	$106,834	$5,193	$0	$4,413	**$116,440**

Manpower Sub-total		Equipment Sub-total		Material Costs		
Earthwork	$24,407	Earthwork	$87,620	Earthwork	$0	Total Cost ($/AC): $1,925
Revegetation	$322	Revegetation	$1,548	Revegetation	$2,543	60.5 plan view acres

(1) One D9R Dozer used to blend the overburden piles with surrounding topography.
(2) Four scrapers, one Motor Grader, one water truck and one D9R.
(3) D9R. Only the fines pile top will be ripped/scarified and seeded per 1996 revision. Estimated 32 acres by design.
(4) Broadcast Seeding.
(5) Equals 6 inches of growth media over overburden pile reveg acres.

CRICKET MOUNTAIN PROJECT - FLAT IRON PERMIT AREA

Overburden Piles

Spreadsheet A

Overburden Pile Name	Map Acres
Overburden Disposal Area	94.9
New Overburden Pile	12.9
Subtotal	107.8
Rip/Scarify Acres 57.0	*Per 1996 Revision, only the tops will be ripped/scarified, covered with growth media, and seeded.

Revised: 12/10/2012

	Contour/Regrade	Growth Media Placement	Rip/Scarify	Fill	Seed/Amendments	TOTALS
Equipment	(1)	(2) & (5)	(3)		(4)	-
Quantity	0 CY	86,959 CY (6)	57.0 AC	0 CY	57.0 AC	-
Production Rate	1,042 CY/HR	624 CY/HR	1.39 AC/HR	624 CY/HR	1.4 AC/HR	-
Time Required	0 HR	139 HR	41 HR	0 HR	42 HR	-
Unit Cost						
Equipment	182.90 $/hr	1,069.41 $/hr	182.90 $/hr	$1,069.41 $/hr	$64.50 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	$300.26 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-		-	$137	-
Cost/Unit Volume ($/cy)	$0.00	$2.19	-	-	-	-
Equipment Cost	$0	$148,647.47	$7,499	$0	$2,709	$158,855
Labor Cost	$0	$41,736.02	$1,759	$0	$564	$44,059
Seed Cost	$0	$0	$0	$0	$4,529	$4,529
TOTAL COSTS	$0	$190,383	$9,257	$0	$7,802	**$207,443**

Manpower Sub-total		Equipment Sub-total		Material Costs		
Earthwork	$43,495	Earthwork	$156,146	Earthwork	$0	Total Cost ($/AC): $1,924
Revegetation	$564	Revegetation	$2,709	Revegetation	$4,529	107.8 plan view acres

(1) One D9R Dozer.
(2) Four scrapers, one Motor Grader, one water truck and one D9R.
(3) D9R. Only the tops will be ripped/scarifed, covered with growth media, and seeded (Pile #1 - 28 acres, Pile #2 - 12 acres, Pile #3 - 17 acres).
(4) Broadcast Seeding.
(5) Equals 6 inches of growth media over overburden pile reveg acres.

CRICKET MOUNTAIN PROJECT - DOLOMITE PERMIT AREA

Overburden Piles

Spreadsheet A

Overburden Pile Name	Map Acres	Revised: 12/10/2012
Fines Pile	43.8	
Subtotal	43.8	

	Contour/Regrade	Growth Media Placement	Rip/Scarify	Fill	Seed/Amendments	TOTALS
Equipment	(1)	(2) & (5)	(3)		(4)	-
Quantity	19,360 CY	35,332 CY (6)	43.8 AC	0 CY	43.8 AC	-
Production Rate	1,042 CY/HR	624 CY/HR	1.39 AC/HR	624 CY/HR	1.4 AC/HR	-
Time Required	19 HR	57 HR	32 HR	0 HR	32 HR	-
Unit Cost						
Equipment	182.90 $/hr	1,069.41 $/hr	182.90 $/hr	$1,069.41 $/hr	$64.50 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	$300.26 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-		-	$136	-
Cost/Unit Volume ($/cy)	$0.22	$2.21	-	-	-	-
Equipment Cost	$3,475	$60,956.16	$5,853	$0	$2,064	$72,348
Labor Cost	$815	$17,114.77	$1,373	$0	$430	$19,732
Seed Cost	$0	$0	$0	$0	$3,480	$3,480
TOTAL COSTS	$4,290	$78,071	$7,225	$0	$5,974	**$95,560**

Manpower Sub-total		Equipment Sub-total		Material Costs		
Earthwork	$19,302	Earthwork	$70,284	Earthwork	$0	Total Cost ($/AC): $2,182
Revegetation	$430	Revegetation	$2,064	Revegetation	$3,480	43.8 plan view acres

(1) One D9R Dozer used to recontour the overburden pile - approximatley 12 acres.
(2) Four scrapers, one Motor Grader, one water truck and one D9R.
(3) D9R.
(4) Broadcast Seeding.
(5) Equals 6 inches of growth media over overburden pile reveg acres.

CRICKET MOUNTAIN PROJECT - ALLSOP PERMIT AREA

Overburden Piles

Spreadsheet A

Revised: 12/10/2012

Overburden Pile Name	Map Acres
East and West Overburden Disposal	56.7
New Overburden Pile	27.7
Subtotal	84.4
Reveg acres	25.5

	Contour/Regrade	Growth Media Placement	Rip/Scarify	Fill	Seed/Amendments	TOTALS
Equipment	(1)	(2) & (5)	(3)		(4)	-
Quantity	0 CY	20,570 CY (5)	25.5 AC	0 CY	25.5 AC	-
Production Rate	1,042 CY/HR	624 CY/HR	1.39 AC/HR	624 CY/HR	1.4 AC/HR	-
Time Required	0 HR	33 HR	18 HR	0 HR	19 HR	-
Unit Cost						
Equipment	182.90 $/hr	1,069.41 $/hr	182.90 $/hr	$1,069.41 $/hr	$64.50 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	$300.26 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-		-	$138	-
Cost/Unit Volume ($/cy)	$0.00	$2.20	-	-	-	-
Equipment Cost	$0	$35,290.41	$3,292	$0	$1,226	$39,808
Labor Cost	$0	$9,908.55	$772	$0	$255	$10,936
Seed Cost	$0	$0	$0	$0	$2,026	$2,026
TOTAL COSTS	$0	$45,199	$4,064	$0	$3,507	**$52,770**

Manpower Sub-total		Equipment Sub-total		Material Costs		
Earthwork	$10,681	Earthwork	$38,583	Earthwork	$0	Total Cost ($/AC): $625
Revegetation	$255	Revegetation	$1,226	Revegetation	$2,026	84.4 plan view acres

(1) D10T Dozer and D9R Dozer, 1 each.
(2) Four Scraper, one Motor Grader, one water truck and one D9R.
(3) D9R. Benches and dump top will be ripped, 25.5 acres as determined from overburden design.
(4) Broadcast Seeder
(5) Equals 6 inches of growth media over entire dump reveg acres

CRICKET MOUNTAIN PROJECT - FINGERS PERMIT AREA

Overburden Piles - Fingers Permit Area

Spreadsheet A

Revised: 12/10/2012

Overburden Pile Name	Map Acres
Overburden Pile	69
Subtotal	69.0
Rip/Scarify Acres 39.7	*Benches, overburden pile tops, and gentle slopes only.

	Contour/Regrade	Growth Media Placement	Rip/Scarify	Fill	Seed/Amendments	TOTALS
Equipment	(1)	(2) & (5)	(3)		(4)	-
Quantity	62,920 CY	55,660 CY (6)	39.7 AC	0 CY	69.0 AC	-
Production Rate	1,042 CY/HR	624 CY/HR	1.39 AC/HR	624 CY/HR	1.4 AC/HR	-
Time Required	60 HR	89 HR	29 HR	0 HR	50 HR	-
Unit Cost						
Equipment	182.90 $/hr	1,069.41 $/hr	182.90 $/hr	$1,069.41 $/hr	$64.50 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	$300.26 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-		-	$136	-
Cost/Unit Volume ($/cy)	$0.22	$2.19	-	-	-	-
Equipment Cost	$10,974	$95,177	$5,304	$0	$3,225	$114,680
Labor Cost	$2,574	$26,723	$1,244	$0	$672	$31,212
Seed Cost	$0	$0	$0	$0	$5,482	$5,482
TOTAL COSTS	$13,547	$121,900	$6,548	$0	$9,379	**$151,375**

Manpower Sub-total		Equipment Sub-total		Material Costs			
Earthwork	$30,541	Earthwork	$111,455	Earthwork	$0	Total Cost ($/AC):	$2,194
Revegetation	$672	Revegetation	$3,225	Revegetation	$5,482	69.0 plan view acres	

(1) One D9R Dozer used to blend the overburden piles with surrounding topography - approximately 39 acres includes the quarry backfill areas.
(2) Four scrapers, one Motor Grader, one water truck and one D9R.
(3) D9R. Benches and top of overburden piles will be ripped, 39.7 acres as determined from overburden design.
(4) Broadcast Seeding.
(5) Equals 6 inches of growth media over overburden pile reveg acres.

CRICKET MOUNTAIN PROJECT - BIG SAGE PERMIT AREA

Overburden/Fines Piles

Spreadsheet A

Revised: 12/10/2012

Overburden Pile Name	Map Acres
North Overburden / Fines Pile (includes 10.5 acres of buffer zones)	22.9
Central Overburden / Fines Pile (includes 10.6 acres of buffer zones)	96.5
Subtotal	119.4
Scarify acres	84.2
Topsoil/Reveg acres	105.4

*33% of the buffer zones will be disturbed, ripped/scarified, and revegetated.

	Contour/Regrade	Topsoil Replacement	Rip/Scarify	Fill	Seed/Amendments	TOTALS
Equipment	(1)	(2) & (5)	(3)		(4)	-
Quantity	145,200 CY	84,993 CY (5)	84.2 AC	0 CY	105.4 AC	-
Production Rate	1,042 CY/HR	624 CY/HR	1.39 AC/HR	624 CY/HR	1.4 AC/HR	-
Time Required	139 HR	136 HR	61 HR	0 HR	76 HR	-
Unit Cost						
Equipment	182.90 $/hr	1,069.41 $/hr	182.90 $/hr	$1,069.41 $/hr	$0.00 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	$300.26 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-		-	$89	-
Cost/Unit Volume ($/cy)	$0.22	$2.19	-	-	-	-
Equipment Cost	$25,423	$145,439.25	$11,157	$0	$0	$182,019
Labor Cost	$5,962	$40,835.25	$2,617	$0	$1,021	$50,435
Seed Cost	$0	$0	$0	$0	$8,372	$8,372
TOTAL COSTS	$31,385	$186,274	$13,773	$0	$9,393	**$240,825**

Manpower Sub-total		Equipment Sub-total		Material Costs		
Earthwork	$49,414	Earthwork	$182,019	Earthwork	$0	Total Cost ($/AC): $2,017
Revegetation	$1,021	Revegetation	$0	Revegetation	$8,372	119.4 plan view acres

(1) One D9R Dozer used to blend the overburden piles with surrounding topography - approximately 90 acres includes the quarry backfill areas.
(2) Four Scrapers, one Motor Grader, one water truck and one D9R.
(3) D9R. Top of piles will be ripped, appx. 84.2 acres for both piles.
(4) Broadcast Seeding and Hand Seeding
(5) Equals 6 inches of topsoil over entire dump reveg acres

CRICKET MOUNTAIN PROJECT - POISON MOUNTAIN PERMIT AREA

Yards and Stockpiles

Spreadsheet **B**

Revised: 12/10/2012

Facility Name	Acres
Ancillary	14.6
Facilities	15.7
Topsoil Stockpile	48.7
Topsoil and Stone Stockpiles	34.6
Total Acres	113.6

	Earthwork				Revegetation	
	Contour/Regrade	Growth Media Placement	Rip/Scarify	Cover	Seed/Amendments	TOTAL
Equipment	(1)	(2) & (6)	(3)	(4)	(5)	-
Quantity	25,329 CY	52,353 CY (6)	113.6 AC	16,133 CY	113.6 AC	-
Production Rate	991 CY/HR	624 CY/HR	1.39 AC/HR	624 CY/HR	1.4 AC/HR	-
Time Required	26 HR	84 HR	82 HR	26 HR	82 HR	-
Unit Cost						
Equipment	251.38 $/hr	1,069.41 $/hr	182.90 $/hr	1069.41 $/hr	$64.50 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	300.26 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$162.98	-	$136	-
Cost/Unit Volume ($/cy)	$0.30	$2.20	-	$2.21	-	-
Equipment Cost	$6,536	$89,830	$14,998	$27,805	$5,289	$144,457
Labor Cost	$1,115	$25,222	$3,517	$7,807	$1,102	$38,763
Seed Cost	$0	$0	$0	$0	$9,026	$9,026
TOTAL COSTS	$7,651	$115,052	$18,515	$35,611	$15,417	**$192,246**

Manpower Sub-total		Equipment Sub-total		Material Costs		
Earthwork	$37,661	Earthwork	$139,168	Earthwork	$0	Total Cost ($/AC): $1,692
Revegetation	$1,102	Revegetation	$5,289	Revegetation	$9,026	113.6 plan view acres

(1) D10R Dozer, 1 each; only recontour the facilities area.

(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.

(3) D9R Dozer, 1 each.

(4) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each. Volume is equal to 2 feet of growth media and/or fines (to cover broken-up concrete) over 5 acres of Facilities ar

(5) Broadcast Seeding

(6) Topsoil placement only in Facility Area, Ancillary, and Stockpile areas with 6 inches.

CRICKET MOUNTAIN PROJECT - FLAT IRON PERMIT AREA

Yards / Stockpiles

Spreadsheet **B**

Facility Name	**Acres**
Ancillary	9.5
Topsoil Stockpile	3.8
Total Acres	13.3

Revised: 12/10/2012

	Earthwork			Revegetation	TOTAL
	Contour/Regrade	Growth Media Placement	Rip/Scarify	Seed/Amendments	
Equipment	(1)	(2) & (5)	(3)	(4)	-
Quantity	0 CY	7,663 CY	13.3 AC	13.3 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	0 HR	12 HR	10 HR	10 HR	-
Unit Cost					
Equipment	337.56 $/hr	1,069.41 $/hr	182.90 $/hr	$64.50 $/hr	-
Labor	85.79 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$169.77	$138	-
Cost/Unit Volume ($/cy)	$0.00	$2.14	-	-	-
Equipment Cost	$0	$12,833	$1,829	$645	$15,307
Labor Cost	$0	$3,603	$429	$134	$4,166
Seed Cost	$0	$0	$0	$1,057	$1,057
TOTAL COSTS	$0	$16,436	$2,258	$1,836	**$20,530**

Manpower Sub-total		Equipment Sub-total		Material Costs	
Earthwork	$4,032	Earthwork	$14,662	Earthwork	
Revegetation	$134	Revegetation	$645	Revegetation	
				Total Cost ($/AC):	$1,544
				13.3 plan view acres	

(1) Growth media stockpiles will not be contoured.

(2) Growth media will not be placed as the existing topsoil will be scarified and seeded.

(3) D9R Dozer, 1 each.

(4) Broadcast seeding.

(5) Six inches of growth medai.

CRICKET MOUNTAIN PROJECT - DOLOMITE PERMIT AREA

Yards and Stockpiles

Spreadsheet **B**

Facility Name	**Acres**
Ancillary	5.8
Soil Stockpile	6.5
Stone Stockpile	14.2
Total Acres	26.5

Revised: 12/10/2012

	Earthwork			Revegetation	
	Contour/Regrade	Growth Media Placement	Rip/Scarify	Seed/Amendments	TOTAL
Equipment	(1)	(2) & (5)	(3)	(4)	-
Quantity	0 CY	16,133 CY	26.5 AC	26.5 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	0 HR	26 HR	19 HR	20 HR	-
Unit Cost					
Equipment	337.56 $/hr	1,069.41 $/hr	182.90 $/hr	$64.50 $/hr	-
Labor	85.79 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$161.89	$138	-
Cost/Unit Volume ($/cy)	$0.00	$2.21	-	-	-
Equipment Cost	$0	$27,805	$3,475	$1,290	$32,570
Labor Cost	$0	$7,807	$815	$269	$8,890
Seed Cost	$0	$0	$0	$2,106	$2,106
TOTAL COSTS	$0	$35,611	$4,290	$3,664	**$43,566**

Manpower Sub-total		Equipment Sub-total		Material Costs	
Earthwork	$8,622	Earthwork	$31,280	Earthwork	Total Cost ($/AC): $1,644
Revegetation	$269	Revegetation	$1,290	Revegetation	26.5 plan view acres

(1) Growth media stockpiles will not be contoured.
(2) Growth media will not be placed as the existing topsoil will be scarified and seeded.
(3) D9R Dozer, 1 each.
(4) Broadcast seeding.
(5) Placement of six inches of growth media in ancillary and stone stockpile areas.

CRICKET MOUNTAIN PROJECT - ALLSOP PERMIT AREA

Yards and Stockpiles

Spreadsheet B

Facility Name	**Acres**	Revised:	12/10/2012
Topsoil Stockpile	16.1		
Total Acres	16.1		

	Earthwork				Revegetation	
	Contour/Regrade	Growth Media Placement	Rip/Scarify	Fill	Seed/Amendments	TOTAL
Equipment	(1)	(2)	(3)	(4)	(5)	-
Quantity	0 CY	0 CY	16.1 AC	0 CY	16.1 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	624 CY/HR	1.4 AC/HR	-
Time Required	0 HR	0 HR	12 HR	0 HR	12 HR	-
Unit Cost						
Equipment	182.90 $/hr	1,069.41 $/hr	182.90 $/hr	1069.41 $/hr	$64.50 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	300.26 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$168.26	-	$138	-
Cost/Unit Volume ($/cy)	$0.00	$0.00	-	$0.00	-	-
Equipment Cost	$0	$0	$2,195	$0	$774	$2,969
Labor Cost	$0	$0	$515	$0	$161	$676
Seed Cost	$0	$0	$0	$0	$1,279	$1,279
TOTAL COSTS	$0	$0	$2,709	$0	$2,214	**$4,924**

Manpower Sub-total		Equipment Sub-total		Material Costs	
Earthwork	$515	Earthwork	$2,195	Earthwork	$0
Revegetation	$161	Revegetation	$774	Revegetation	$1,279

Total Cost ($/AC): $306
16.1 plan view acres

(1) D9R Dozer, 1 each;
(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(3) D9R Dozer, 1 each.
(4) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each. Volume is equal to 2 feet of fill (to cover broken-up concrete) over one-fourth of plant site area.
(5) Broadcast Seeder

CRICKET MOUNTAIN PROJECT - FINGERS PERMIT AREA

Yards and Stockpiles

Spreadsheet **B**

Facility Name	**Acres**	Revised:	12/10/2012
Topsoil Stockpile	6.6		
Total Acres	6.6		

	Earthwork			Revegetation	TOTAL
	Contour/Regrade	Growth Media Placement	Rip/Scarify	Seed/Amendments	
Equipment	(1)	(2)	(3)	(4)	-
Quantity	0 CY	0 CY	6.6 AC	6.6 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	0 HR	0 HR	5 HR	5 HR	-
Unit Cost					
Equipment	182.90 $/hr	1,069.41 $/hr	182.90 $/hr	$64.50 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$171.06	$138	-
Cost/Unit Volume ($/cy)	$0.00	$0.00	-	-	-
Equipment Cost	$0	$0	$914	$323	$1,237
Labor Cost	$0	$0	$214	$67	$282
Seed Cost	$0	$0	$0	$524	$524
TOTAL COSTS	$0	$0	$1,129	$914	**$2,043**

Manpower Sub-total		Equipment Sub-total		Material Costs	
Earthwork	$214	Earthwork	$914	Earthwork	Total Cost ($/AC): $310
Revegetation	$67	Revegetation	$323	Revegetation	6.6 plan view acres

(1) Growth media stockpiles will not be contoured.

(2) Growth media will not be placed as the existing topsoil will be scarified and seeded.

(3) D9R Dozer, 1 each.

(4) Broadcast seeding.

CRICKET MOUNTAIN PROJECT - BIG SAGE PERMIT AREA

Yards and Stockpiles

Spreadsheet B

Revised: 12/2/2013

Facility Name	Acres
Topsoil Stockpile	20.7
Facility Area	58.6
Total Acres	79.3

*Interior road acreage (10.7 acres) was placed in the haul roads category (Sheet D).
*Evaporation pond acreage (2.2 acres) was placed in the stormwater controls cateogry (Sheet E).
*Facility demolition and removal costs are provided in the structure demolition and disposal cateory (Sheet E).

	Earthwork				Revegetation	
	Contour/Regrade	Growth Media Placement	Rip/Scarify	Cover	Seed/Amendments	TOTAL
Equipment	(1)	(2) & (6)	(3)	(4)	(5)	-
Quantity	94,541 CY	47,271 CY (6)	79.3 AC	16,133 CY	79.3 AC	-
Production Rate	991 CY/HR	624 CY/HR	1.39 AC/HR	624 CY/HR	1.4 AC/HR	-
Time Required	95 HR	76 HR	57 HR	26 HR	58 HR	-
Unit Cost						
Equipment	251.38 $/hr	1,069.41 $/hr	182.90 $/hr	1069.41 $/hr	$64.50 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	300.26 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$162.30	-	$136	-
Cost/Unit Volume ($/cy)	$0.30	$2.20	-	$2.21	-	-
Equipment Cost	$23,881	$81,275	$10,425	$27,805	$3,741	$147,127
Labor Cost	$4,075	$22,820	$2,445	$7,807	$779	$37,926
Seed Cost	$0	$0	$0	$0	$6,301	$6,301
TOTAL COSTS	$27,956	$104,095	$12,870	$35,611	$10,821	**$191,353**

Manpower Sub-total		Equipment Sub-total		Material Costs			
Earthwork	$37,146	Earthwork	$143,386	Earthwork	$0	Total Cost ($/AC):	$2,413
Revegetation	$779	Revegetation	$3,741	Revegetation	$6,301	79.3 plan view acres	

(1) D10R Dozer, 1 each; only recontour the facilities area.
(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(3) D9R Dozer, 1 each.
(4) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each. Volume is equal to 2 feet of growth media and/or fines (to cover broken-up concrete) over 5 acres of Facility Are
(5) Broadcast Seeding
(6) Topsoil placement only in Facility Area with 6 inches.

Quarries

Spreadsheet C

Facility Name	Acres	Revised:	12/10/2012
Poison Mountain Quarry	22.0		
Subtotal Acres	22.0		

		Earthwork Ripping	Earthwork Growth Media Placement	Seed/Amendments	TOTAL (4)
Equipment		(1)	(2) (3)		boulders
Quantity		19.8 ac	15,972 CY	19.8 Acres	-
Production Rate		1.39 AC/hr	624 CY/HR	1.4 AC/HR	-
Time Required		14 HR	26.0 HR	15 HR	-
Unit Cost					
	Equipment	$182.90 $/hr	1,069 $/hr	$64.50 $/hr	-
	Labor	$42.89 $/hr	300 $/hr	$13.44 $/hr	-
	Material	$0.00 $/ac	0 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)		-			-
Cost/Unit Volume ($/CY)		$159.65	$2.23		-
Equipment Cost		$2,561	$27,805	$968	$31,333
Labor Cost		$601	$7,807	$202	$8,609
Seed Cost		$0	$0	$1,573	$1,573
TOTAL COSTS		$3,161	$35,611	$2,742	**$41,515**

Manpower Sub-total		Equipment Sub-total		Materials/Subcontracts Sub-total			
Earthwork	$601	Earthwork	$2,561	Earthwork	$0	Total Cost ($/AC):	$1,887.03
Revegetation	$202	Revegetation	$968	Revegetation	$1,573	22.0 plan view acres	

(1) Quarry bottoms and benches to be smoothed and ripped with D9R. Acreage equals 90% of selected quarry areas as bench faces will not be reclaimed.
(2) Growth media placed to a depth of 6 inches.
(3) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(4) Total includes quarry berms in following table.

QUARRY BERMS

	Description	Fingers						Total
		Rk Berm						
(A)	Quarry Perimeter Length (ft)	*0*						
	Haul Distance (ft)	*0*						
	Berm Height (ft)	*3*						
	Berm Crest Width (ft)	*1*						
	Berm Angle (_H:1V)	*1.3*						
	Berm Material to Move (cy)	0						
	Hourly Production (LCY)	469						
	Production Time	0.0						
	Total Labor Cost	$0						$0
	Total Equipment Cost	$0						$0
	TOTALS	$0	$0	$0	$0	$0	$0	**$0**

$41,515 TOTAL QUARRY RECLAMATION COST

$8,609	Labor
$31,333	Equipment
$1,573	Materials

Quarries

Spreadsheet C

Facility Name	Acres	Revised:	12/10/2012
Flat Iron Quarry	66.7		
North Lobe Quarry	43.1		
Subtotal Acres	109.8		

		Earthwork Ripping	Earthwork Growth Media Placement	Seed/Amendments	TOTAL (4)
Equipment		(1)	(2) (3)		boulders
Quantity		98.8 ac	79,715 CY	98.8 Acres	-
Production Rate		1.39 AC/hr	624 CY/HR	1.4 AC/HR	-
Time Required		71 HR	128.0 HR	72 HR	-
Unit Cost					
	Equipment	$182.90 $/hr	1,069 $/hr	$64.50 $/hr	-
	Labor	$42.89 $/hr	300 $/hr	$13.44 $/hr	-
	Material	$0.00 $/ac	0 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)		-			-
Cost/Unit Volume ($/CY)		$162.22	$2.20		-
Equipment Cost		$12,986	$136,884	$4,644	$154,514
Labor Cost		$3,045	$38,433	$967	$42,446
Seed Cost		$0	$0	$7,852	$7,852
TOTAL COSTS		$16,031	$175,317	$13,463	**$204,811**

Manpower Sub-total		Equipment Sub-total			Materials/Subcontracts Sub-total	
	Earthwork	$3,045	Earthwork	$12,986	Earthwork	$0
	Revegetation	$967	Revegetation	$4,644	Revegetation	$7,852

Total Cost ($/AC): $1,865.31

109.8 plan view acres

(1) Quarry bottoms and benches to be smoothed and ripped with D9R. Acreage equals 90% of selected quarry areas as bench faces will not be reclaimed.
(2) Growth media placed to a depth of 6 inches.
(3) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(4) Total includes quarry berms in following table.

QUARRY BERMS

Description	Fingers						Total
	Rk Berm						
Quarry Perimeter Length (ft)	*0*						
Haul Distance (ft)	*0*						
Berm Height (ft)	*3*						
Berm Crest Width (ft)	*1*						
Berm Angle (_H:1V)	*1.3*						
Berm Material to Move (cy)	0						
Hourly Production (LCY)	469						
Production Time	0.0						
Total Labor Cost	$0						$0
Total Equipment Cost	$0						$0
TOTALS	$0	$0	$0	$0	$0	$0	**$0**

$204,811 TOTAL QUARRY RECLAMATION COST

$42,446 Labor
$154,514 Equipment
$7,852 Materials

CRICKET MOUNTAIN PROJECT - DOLOMITE PERMIT AREA

Quarries

Spreadsheet C

Facility Name	Acres	Revised:	12/10/2012
Dolomite Quarry	76.0		
New Quarries	81.4		
Subtotal Acres	157.4		

		Earthwork Ripping	Earthwork Growth Media Placement	Seed/Amendments	TOTAL (4)
Equipment		(1)	(2) (3)		boulders
Quantity		141.7 ac	114,272 CY	141.7 Acres	-
Production Rate		1.39 AC/hr	624 CY/HR	1.4 AC/HR	-
Time Required		102 HR	183.0 HR	102 HR	-
Unit Cost					
	Equipment	$182.90 $/hr	1,069 $/hr	$64.50 $/hr	-
	Labor	$42.89 $/hr	300 $/hr	$13.44 $/hr	-
	Material	$0.00 $/ac	0 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)		-			-
Cost/Unit Volume ($/CY)		$162.58	$2.19		-
Equipment Cost		$18,655	$195,701	$6,579	$222,236
Labor Cost		$4,375	$54,947	$1,371	$60,692
Seed Cost		$0	$0	$11,255	$11,255
TOTAL COSTS		$23,031	$250,649	$19,205	**$294,384**

Manpower Sub-total		Equipment Sub-total		Materials/Subcontracts Sub-total			
Earthwork	$4,375	Earthwork	$18,655	Earthwork	$0	Total Cost ($/AC):	$1,870.29
Revegetation	$1,371	Revegetation	$6,579	Revegetation	$11,255	157.4 plan view acres	

(1) Quarry bottoms and benches to be smoothed and ripped with D9R. Acreage equals 90% of selected quarry areas as bench faces will not be reclaimed.
(2) Growth media placed to a depth of 6 inches.
(3) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(4) Total includes quarry berms in following table.

QUARRY BERMS

	Fingers						Total
Description	*Rk Berm*						
Quarry Perimeter Length (ft)	*2,000*						
Haul Distance (ft)	*2,000*						
Berm Height (ft)	*3*						
Berm Crest Width (ft)	*1*						
Berm Angle (_H:1V)	*1.3*						
Berm Material to Move (cy)	1,089						
Hourly Production (LCY)	469						
Production Time	2.3						
Total Labor Cost	$199						$199
Total Equipment Cost	$1,301						$1,301
TOTALS	$1,500	$0	$0	$0	$0	$0	**$1,500**

$294,384 TOTAL QUARRY RECLAMATION COST

$60,892 Labor
$222,236 Equipment
$11,255 Materials

Quarries

Spreadsheet C

Facility Name	Acres	Revised:	12/10/2012
Allsop (Includes East Allsop)	254.7		
Subtotal Acres	254.7		

		Earthwork	Revegetation		
		Ripping	Growth Media Placement	Seed/Amendments	TOTAL (4)
Equipment		(1)	(2) (3)		boulders
Quantity		229.2 ac	184,912 CY	229.2 Acres	-
Production Rate		1.39 AC/hr	624 CY/HR	1.4 AC/HR	-
Time Required		165 HR	296.0 HR	165 HR	-
Unit Cost					
	Equipment	$182.90 $/hr	1,069 $/hr	$64.50 $/hr	-
	Labor	$42.89 $/hr	300 $/hr	$13.44 $/hr	-
	Material	$0.00 $/ac	0 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)		-			-
Cost/Unit Volume ($/CY)		$162.52	$2.19		-
Equipment Cost		$30,178	$316,544	$10,643	$363,429
Labor Cost		$7,078	$88,877	$2,217	$99,100
Seed Cost		$0	$0	$18,213	$18,213
TOTAL COSTS		$37,255	$405,421	$31,073	**$480,742**

Manpower Sub-total		Equipment Sub-total		Materials/Subcontracts Sub-total			
Earthwork	$7,078	Earthwork	$30,178	Earthwork	$0	Total Cost ($/AC):	########
Revegetation	$2,217	Revegetation	$10,643	Revegetati	$18,213	254.7 plan view acres	

(1) Quarry bottoms and benches to be smoothed and ripped with D9R. Acreage equals 90% of selected quarry areas as bench faces will not be reclaimed.
(2) Growth media placed to a depth of 6 inches.
(3) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(4) Total includes quarry berms in following table.

Description	*Rk Berm*						
Quarry Perimeter Length (ft)	*7,000*						
Haul Distance (ft)	*4,500*						
Berm Height (ft)	*3*						
Berm Crest Width (ft)	*1*						
Berm Angle (_H:1V)	*1.3*						
Berm Material to Move (cy)	3,811					**$480,742**	**TOTAL QUARRY RECLAMATION COST**
Hourly Production (LCY)	352						
Production Time	10.8					$99,100	Labor
Total Labor Cost	$929				$929	$363,429	Equipment
Total Equipment Cost	$6,064				$6,064	$18,213.30	Materials
TOTALS	$6,993	$0	$0	$0	**$6,993**		

Quarries

Spreadsheet C

Facility Name	Acres	Revised:	12/10/2012
Quarry Area	138.1		
Subtotal Acres	138.1		

		Earthwork Ripping	Earthwork Growth Media Placement	Seed/Amendments	TOTAL (4)
Equipment		(1)	(2) (3)		boulders
Quantity		124.3 ac	100,261 CY	124.3 Acres	-
Production Rate		1.39 AC/hr	624 CY/HR	1.4 AC/HR	-
Time Required		89 HR	161.0 HR	90 HR	-
Unit Cost					
	Equipment	$182.90 $/hr	1,069 $/hr	$64.50 $/hr	-
	Labor	$42.89 $/hr	300 $/hr	$13.44 $/hr	-
	Material	$0.00 $/ac	0 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)		-			-
Cost/Unit Volume ($/CY)		$161.68	$2.20		-
Equipment Cost		$16,278	$172,174	$5,805	$197,183
Labor Cost		$3,818	$48,342	$1,209	$53,817
Seed Cost		$0	$0	$9,875	$9,875
TOTAL COSTS		$20,095	$220,516	$16,890	**$260,875**

Manpower Sub-total		Equipment Sub-total		Materials/Subcontracts Sub-total			
Earthwork	$3,818	Earthwork	$16,278	Earthwork	$0	Total Cost ($/AC):	$1,889.03
Revegetation	$1,209	Revegetation	$5,805	Revegetation	$9,875	138.1 plan view acres	

(1) Quarry bottoms and benches to be smoothed and ripped with D9R. Acreage equals 90% of selected quarry areas as bench faces will not be reclaimed.
(2) Growth media placed to a depth of 6 inches.
(3) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(4) Total includes quarry berms in following table.

QUARRY BERMS

	Description	Fingers Rk Berm						Total
(A)	Quarry Perimeter Length (ft)	*4,500*						
	Haul Distance (ft)	*2,000*						
	Berm Height (ft)	*3*						
	Berm Crest Width (ft)	*1*						
	Berm Angle (_H:1V)	*1.3*						
	Berm Material to Move (cy)	2,450						
	Hourly Production (LCY)	469						
	Production Time	5.2						
	Total Labor Cost	$448						$448
	Total Equipment Cost	$2,926						$2,926
	TOTALS	$3,374	$0	$0	$0	$0	$0	**$3,374**

$260,875 TOTAL QUARRY RECLAMATION COST

$53,817 Labor
$197,183 Equipment
$9,875 Materials

CRICKET MOUNTAIN PROJECT - BIG SAGE

Quarries

Spreadsheet C

Facility Name	Acres	Revised: 12/10/2012
Big Sage North Quarry Area (includes 42.0 acres of buffer zones)	115.4	
Big Sage South Quarry Area (includes 79.5 acres of buffer zones)	279.8	*Bench faces comprise 32.5 acres.
		*33% of buffer zones will be disturbed, ripped/scarified, and revegetated.
Subtotal Acres	395.2	Topsoil/Reveg Ac 281.3

	Earthwork				
	Growth Media Placement	Ripping	Seed/Amendments	TOTAL
Equipment	(1) & (4)	(2)	(3)	
Quantity	226,911 CY (4)	281.3 ac	281.3 Acres	
Production Rate	624 CY/HR	1.39 CY/HR	1.4 AC/HR	
Time Required	364 HR	202 HR	203 HR	
Unit Cost				
Equipment	$1,069.41 $/hr	$182.90 $/hr	$0.00 $/hr	
Labor	$300.26 $/hr	$42.89 $/hr	$13.44 $/hr	
Material	$0.00 $/ac	$0.00 $/ac	$79.45 $/ac	
Cost/Unit Area ($/ac)				
Cost/Unit Volume ($/CY)	$2.19	$162.14		
Equipment Cost	$388,879	$36,945	$0	$425,824
Labor Cost	$109,186	$8,665	$2,728	$120,579
Seed Cost	$0	$0	$22,350	$22,350
TOTAL COSTS	$498,065	$45,610	$25,078	**$568,753**

Manpower Subtotal		Equipment Sub-total		Materials/Subcontracts Sub-total			
Earthwork	$117,851	Earthwork	$425,824	Earthwork	$0	Total Cost ($/AC):	$1,439.15
Revegetation	$2,728	Revegetation	$0	Revegetation	$22,350	395.2 plan view acres	

(1) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.

(2) Quarry bottoms and bench tops to be smoothed and ripped with D9R. South Quarry contains approximately 32.5 acres of bench faces, which will not have topsoil placement and seed. Includes costs for the quarry backfill areas.

(3) Broadcast seeding and hand seeding. Includes costs for the quarry backfill areas.

(4) Growth media thickness of 6 inches.

CRICKET MOUNTAIN PROJECT - POISON MOUNTAIN QUARRY

Haul/Access Roads

Spreadsheet D

Facility Name	Acres	Revised: #########
Haul Road	13.8	
Total	13.8	

	Earthwork			Revegetation	
	Contour/Regrade	Growth Media Placeme	Rip/Scarify	Seed	TOTAL
Equipment	(1)	(2) & (5)	(3)	(4)	-
Quantity	88,068 CY	11,132 CY (7)	13.8 AC	13.8 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	123 HR	18 HR	10 HR	10 HR	-
Unit Cost					
Equipment	337.56 $/hr	1,069.41 $/hr	182.90 $/hr	$64.50 $/hr	-
Labor	85.79 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$163.62	$136	-
Cost/Unit Volume ($/cy)	$0.59	$2.21	-	-	-
Equipment Cost	$41,520	$19,249	$1,829	$645	$63,243
Labor Cost	$10,552	$5,405	$429	$134	$16,520
Seed Cost	$0	$0	$0	$1,096	$1,096
TOTAL COSTS	$52,072	$24,654	$2,258	$1,876	**$80,859**

Manpower Sub-total		Equipment Sub-total		Material Costs		
Earthwork	$16,386	Earthwork	$62,598	Earthwork	Total Cost ($/AC):	$5,859
Revegetation	$134	Revegetation	$645	Revegetati $1,096	13.8 plan view acres	

(1) D9R Dozer, 1 each; 16H Motor Grader, 1 each.
(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(3) D9R Dozer, 1 each.
(4) Broadcast Seeding.
(5) Growth media volume based on a 6-inch thickness.

CRICKET MOUNTAIN PROJECT - POISON MOUNTAIN QUARRY

Road Regrade Volumes

Spreadsheet D1

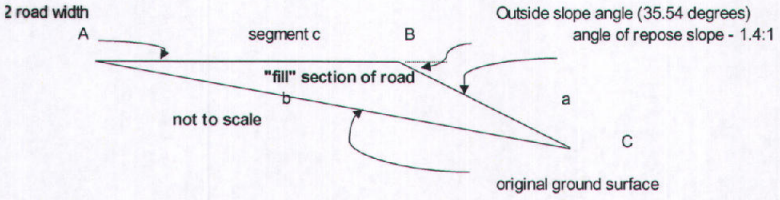
Revised: #########

Input Parameters	Outside slope	35.54 degrees	1.4 slope

Segment Length (feet)	Segment Width (feet)	Section Original Ground Surface Slope	Slope Angle A (degrees)	Crest Angle B (degrees)	Intersection Angle C (degrees)	Original surface segment length (feet)	Fill Triangle **Area (1)** (square feet)	Segment Acres	Total Segment Width (feet) (2)	Segment Regrade Volume (cubic feet)	Segment Regrade Volume (cubic yards)
Haul Roads:											
510	150	25.0%	14.04	144.46	21.50	118.94	1,081.7	2.70	230.8	551,683	20,433
815	30	35.0%	19.29	144.46	16.25	31.16	77.2	1.10	58.8	62,923	2,331
2,245	45	30.0%	16.70	144.46	18.84	40.50	130.9	4.00	77.6	293,930	10,886
1,010	150	30.0%	16.70	144.46	18.84	135.00	1,454.7	6.00	258.6	1,469,289	54,418
								13.80			88,068

(1) The (triangle representing the) fill portion of a road cross-section will be placed back into the cut portion of the road (not shown) to return to original contour. The determination of that area represents the sum of the earthmoving required for that segment.

(2) Roughly approximated by the projection of segment b (the original ground surface) times two sides (the width of the cut half of the road is slightly overstated).



A = atan (original slope)
B = 180 degrees - atan (1.4/1)
C = 180 - A - B

s states that: $\frac{\text{Sin A}}{a}$ $\frac{\text{Sin B}}{b}$ $\frac{\text{Sin C}}{c}$ are all equivalent

Then b = (sin B / Sin C) * c

The law of sines further states that the area of the triangle = 0.5 * cb sin A

CRICKET MOUNTAIN PROJECT - FLAT IRON PERMIT AREA

Haul/Access Roads

Spreadsheet D

Facility Name	Acres	Revised:	12/10/2012
New Roads	8.7		
Total	8.7		

	Earthwork		Revegetation		TOTAL
	Contour/Regrade	Growth Media Placement	Rip/Scarify	Seed	
Equipment	(1)	(2) & (5)	(3)	(4)	-
Quantity	33,650 CY	7,018 CY (7)	8.7 AC	8.7 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	47 HR	11 HR	6 HR	7 HR	-
Unit Cost					
Equipment	337.56 $/hr	1,069.41 $/hr	182.90 $/hr	$0.00 $/hr	-
Labor	85.79 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$155.75	$90	-
Cost/Unit Volume ($/cy)	$0.59	$2.15	-	-	-
Equipment Cost	$15,865	$11,763	$1,097	$0	$28,726
Labor Cost	$4,032	$3,303	$257	$94	$7,686
Seed Cost	$0	$0	$0	$691	$691
TOTAL COSTS	$19,897	$15,066	$1,355	$785	**$37,104**

Manpower Sub-total		Equipment Sub-total		Material Costs			
Earthwork	$7,592	Earthwork	$28,726	Earthwork		Total Cost ($/AC):	$4,265
Revegetation	$94	Revegetation	$0	Revegetation	$691	8.7 plan view acres	

(1) D9R Dozer, 1 each; 16H Motor Grader, 1 each.
(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(3) D9R Dozer, 1 each.
(4) Broadcast seeding.
(5) Growth media placed to a depth of six inches.

CRICKET MOUNTAIN PROJECT - FLAT IRON PERMIT AREA

Road Regrade Volumes

Spreadsheet D1

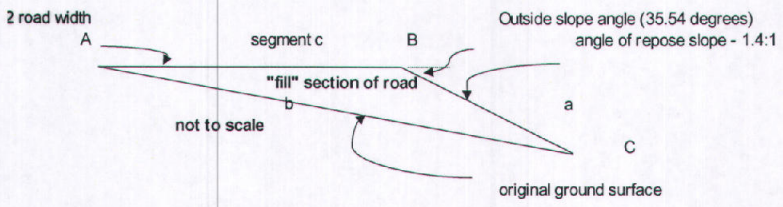
Revised: ########

Input Parameters	Outside slope	35.54 degrees	1.4 slope

Segment Length (feet)	Segment Width (feet)	Section Original Ground Surface Slope	Slope Angle A (degrees)	Crest Angle B (degrees)	Intersection Angle C (degrees)	Original surface segment length (feet)	Fill Triangle Area (1) (square feet)	Segment Acres	Total Segment Width (feet) (2)	Segment Regrade Volume (cubic feet)	Segment Regrade Volume (cubic yards)
Haul Roads:											
510	150	25.0%	14.04	144.46	21.50	118.94	1,081.7	2.70	230.8	551,683	20,433
815	30	35.0%	19.29	144.46	16.25	31.16	77.2	1.10	58.8	62,923	2,331
2,245	45	30.0%	16.70	144.46	18.84	40.50	130.9	4.00	77.6	293,930	10,886
								7.80			33,650

(1) The (triangle representing the) fill portion of a road cross-section will be placed back into the cut portion of the road (not shown) to return to original contour. The determination of that area represents the sum of the earthmoving required for that segment.

(2) Roughly approximated by the projection of segment b (the original ground surface) times two sides (the width of the cut half of the road is slightly overstated).



A = atan (original slope)
B = 180 degrees - atan (1.4/1)
C = 180 - A - B

s states that: $\frac{\text{Sin A}}{a}$ $\frac{\text{Sin B}}{b}$ $\frac{\text{Sin C}}{c}$ are all equivalent

Then b = (sin B / Sin C) * c

The law of sines further states that the area of the triangle = 0.5 * cb sin A

CRICKET MOUNTAIN PROJECT - DOLOMITE PERMIT AREA

Haul/Access Roads

Spreadsheet D

Facility Name	Acres
Haul Road	1
New Roads	6
Total	7

Revised: 12/10/2012

	Earthwork			Revegetation	TOTAL
	Contour/Regrade	Growth Media Placement	Rip/Scarify	Seed	
Equipment	(1)	(2) & (5)	(3)	(4)	-
Quantity	8,848 CY	5,647 CY (7)	7 AC	7 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	12 HR	9 HR	5 HR	6 HR	-
Unit Cost					
Equipment	337.56 $/hr	1,069.41 $/hr	182.90 $/hr	$0.00 $/hr	-
Labor	85.79 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$161.29	$91	-
Cost/Unit Volume ($/cy)	$0.57	$2.18	-	-	-
Equipment Cost	$4,051	$9,625	$914	$0	$14,590
Labor Cost	$1,029	$2,702	$214	$81	$4,027
Seed Cost	$0	$0	$0	$556	$556
TOTAL COSTS	$5,080	$12,327	$1,129	$637	**$19,173**

Manpower Sub-total		Equipment Sub-total		Material Costs			
Earthwork	$3,946	Earthwork	$14,590	Earthwork		Total Cost ($/AC):	$2,739
Revegetation	$81	Revegetation	$0	Revegetation	$556	7 plan view acres	

(1) D9R Dozer, 1 each; 16H Motor Grader, 1 each.
(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(3) D9R Dozer, 1 each.
(4) Broadcast seeding.
(5) Growth media placed to a depth of six inches.

CRICKET MOUNTAIN PROJECT - DOLOMITE PERMIT AREA

Road Regrade Volumes

Spreadsheet D1

Revised: #########

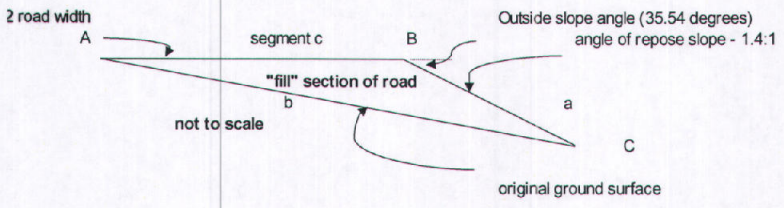
Input Parameters

Outside slope	35.54 degrees	1.4 slope

Segment Length (feet)	Segment Width (feet)	Section Original Ground Surface Slope	Slope Angle A (degrees)	Crest Angle B (degrees)	Intersection Angle C (degrees)	Original surface segment length (feet)	Fill Triangle Area (1) (square feet)	Segment Acres	Total Segment Width (feet) (2)	Segment Regrade Volume (cubic feet)	Segment Regrade Volume (cubic yards)
Haul Roads:											
2,275	125	5.0%	2.86	144.46	32.68	67.29	105.0	7.02	134.4	238,890	8,848
								7.02			8,848

(1) The (triangle representing the) fill portion of a road cross-section will be placed back into the cut portion of the road (not shown) to return to original contour. The determination of that area represents the sum of the earthmoving required for that segment.

(2) Roughly approximated by the projection of segment b (the original ground surface) times two sides (the width of the cut half of the road is slightly overstated).



A = atan (original slope)
B = 180 degrees - atan (1.4/1)
C = 180 - A - B

s states that: $\frac{\text{Sin A}}{a}$ $\frac{\text{Sin B}}{b}$ $\frac{\text{Sin C}}{c}$ are all equivalent

Then b = (sin B / Sin C) * c

The law of sines further states that the area of the triangle = 0.5 * cb sin A

CRICKET MOUNTAIN PROJECT - ALLSOP PERMIT AREA

Haul/Access Roads

Spreadsheet D

Facility Name	Acres
Roads	2.7
New Roads	6.8
Total	9.5

Revised: 12/10/2012

	Earthwork			Revegetation	TOTAL
	Contour/Regrade	Growth Media Placement	Rip/Scarify	Seed	
Equipment	(1)	(2) & (5)	(3)	(4))	-
Quantity	2,721 CY	7,663 CY (7)	9.5 AC	9.5 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	4 HR	12 HR	7 HR	7 HR	-
Unit Cost					
Equipment	337.56 $/hr	1,069.41 $/hr	182.90 $/hr	$64.50 $/hr	-
Labor	85.79 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$166.42	$137	-
Cost/Unit Volume ($/cy)	$0.62	$2.14	-	-	-
Equipment Cost	$1,350	$12,833	$1,280	$452	$15,915
Labor Cost	$343	$3,603	$300	$94	$4,341
Seed Cost	$0	$0	$0	$755	$755
TOTAL COSTS	$1,693	$16,436	$1,581	$1,300	**$21,010**

Manpower Sub-total		Equipment Sub-total		Material Costs		
Earthwork	$4,247	Earthwork	$15,463	Earthwork	Total Cost ($/AC):	$2,212
Revegetation	$94	Revegetation	$452	Revegetation $755	9.5 plan view acres	

(1) D9R Dozer, 1 each; 16H Motor Grader, 1 each.
(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(3) D9R Dozer, 1 each.
(4) Broadcast Seeder.
(5) Growth media volume of 6 inches.

CRICKET MOUNTAIN PROJECT - ALSOP PERMIT AREA

Road Regrade Volumes

Spreadsheet D1

Revised: ########

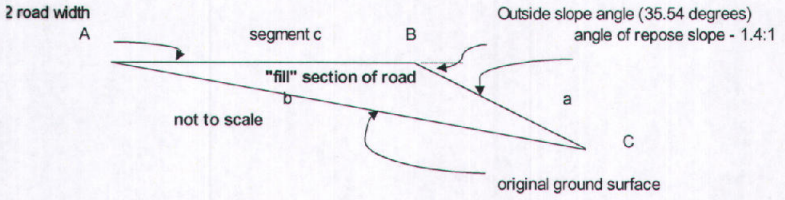
Input Parameters

Outside slope	35.54 degrees	1.4 slope

Segment Length (feet)	Segment Width (feet)	Section Original Ground Surface Slope	Slope Angle A (degrees)	Crest Angle B (degrees)	Intersection Angle C (degrees)	Original surface segment length (feet)	Fill Triangle **Area (1)** (square feet)	Segment Acres	Total Segment Width (feet) (2)	Segment Regrade Volume (cubic feet)	Segment Regrade Volume (cubic yards)
Haul Roads:											
2,128	100	5.0%	2.86	144.46	32.68	53.83	67.2	5.25	107.5	143,011	5,297
485	100	5.0%	2.86	144.46	32.68	53.83	67.2	1.20	107.5	32,594	1,207
								6.45			**6,504**

(1) The (triangle representing the) fill portion of a road cross-section will be placed back into the cut portion of the road (not shown) to return to original contour. The determination of that area represents the sum of the earthmoving required for that segment.

(2) Roughly approximated by the projection of segment b (the original ground surface) times two sides (the width of the cut half of the road is slightly overstated).



A = atan (original slope)
B = 180 degrees - atan (1.4/1)
C = 180 - A - B

s states that: $\frac{\text{Sin A}}{a}$ $\frac{\text{Sin B}}{b}$ $\frac{\text{Sin C}}{c}$ are all equivalent

Then b = (sin B / Sin C) * c

The law of sines further states that the area of the triangle = 0.5 * cb sin A

CRICKET MOUNTAIN PROJECT - FINGERS PERMIT AREA

Haul/Access Roads

Spreadsheet D

Facility Name	Acres	Revised:	12/10/2012
Haul Road	2		
Total	2		

	Earthwork		Revegetation		
	Contour/Regrade	Growth Media Placement	Rip/Scarify	Seed	TOTAL
Equipment	(1)	(2) & (5)	(3)	(4)	-
Quantity	994 CY	1,613 CY (7)	2 AC	2 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	1 HR	3 HR	1 HR	2 HR	-
Unit Cost					
Equipment	337.56 $/hr	1,069.41 $/hr	182.90 $/hr	$64.50 $/hr	-
Labor	85.79 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$113.00	$158	-
Cost/Unit Volume ($/cy)	$0.43	$2.55	-	-	-
Equipment Cost	$338	$3,208	$183	$129	$3,858
Labor Cost	$86	$901	$43	$27	$1,056
Seed Cost	$0	$0	$0	$159	$159
TOTAL COSTS	$423	$4,109	$226	$315	**$5,073**

Manpower Sub-total		Equipment Sub-total		Material Costs			
Earthwork	$1,029	Earthwork	$3,729	Earthwork		Total Cost ($/AC):	$2,537
Revegetation	$27	Revegetation	$129	Revegetation	$159	2 plan view acres	

(1) D9R Dozer, 1 each; 16H Motor Grader, 1 each.
(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(3) D9R Dozer, 1 each.
(4) Broadcast Seeding.
(5) Growth media thickness is 6 inches.

CRICKET MOUNTAIN PROJECT - FINGERS QUARRY

Road Regrade Volumes

Spreadsheet D1

Revised: ########

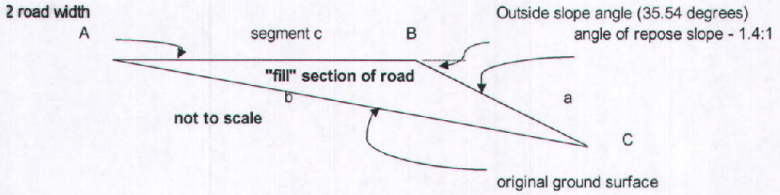
Input Parameters

Outside slope	35.54 degrees	1.4 slope

Segment Length (feet)	Segment Width (feet)	Section Original Ground Surface Slope	Slope Angle A (degrees)	Crest Angle B (degrees)	Intersection Angle C (degrees)	Original surface segment length (feet)	Fill Triangle Area (1) (square feet)	Segment Acres	Total Segment Width (feet) (2)	Segment Regrade Volume (cubic feet)	Segment Regrade Volume (cubic yards)
Roads:											
435	110	0.0%	0.00	144.46	35.54	55.00	0.0	1.10	110.0	0	0
330	110	5.0%	2.86	144.46	32.68	59.21	81.3	0.90	118.3	26,835	994
								2.00			**994**

(1) The (triangle representing the) fill portion of a road cross-section will be placed back into the cut portion of the road (not shown) to return to original contour. The determination of that area represents the sum of the earthmoving required for that segment.

(2) Roughly approximated by the projection of segment b (the original ground surface) times two sides (the width of the cut half of the road is slightly overstated).



A = atan (original slope)
B = 180 degrees - atan (1.4/1)
C = 180 - A - B

s states that: $\frac{\text{Sin A}}{a}$ $\frac{\text{Sin B}}{b}$ $\frac{\text{Sin C}}{c}$ are all equivalent

Then b = (sin B / Sin C) * c

The law of sines further states that the area of the triangle = 0.5 * cb sin A

CRICKET MOUNTAIN PROJECT - BIG SAGE

Haul/Access Roads

Spreadsheet D

Facility Name	Acres
Haul/Access Roads	19.8
New Big Sage Road	15.3
	35.9
Total	71

Revised: 12/2/2013

* Includes 10.7 acres from the Facility Area and 4.6 acres from the quarry areas.

	Earthwork			Revegetation	
	Contour/Regrade	Growth Media Replacement	Rip/Scarify	Seed	TOTAL
Equipment	(1)	(2) & (5)	(3)	(4)	-
Quantity	302,850 CY	28,314 CY (7)	71 AC	71 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	423 HR	45 HR	51 HR	52 HR	-
Unit Cost					
Equipment	337.56 $/hr	1,069.41 $/hr	182.90 $/hr	$64.50 $/hr	-
Labor	85.79 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$162.18	$137	-
Cost/Unit Volume ($/cy)	$0.59	$2.18	-	-	-
Equipment Cost	$142,787	$48,123	$9,328	$3,354	$203,592
Labor Cost	$36,288	$13,512	$2,188	$699	$52,686
Seed Cost	$0	$0	$0	$5,641	$5,641
TOTAL COSTS	$179,076	$61,635	$11,515	$9,694	**$261,920**

Manpower Sub-total		Equipment Sub-total		Material Costs		
Earthwork	$51,988	Earthwork	$200,238	Earthwork		Total Cost ($/AC): $3,689
Revegetation	$699	Revegetation	$3,354	Revegetation	$5,641	71 plan view acres

(1) D9R Dozer, 1 each; 16H Motor Grader, 1 each.
(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(3) D9R Dozer, 1 each.
(4) Broadcast Seeding
(5) Growth media placement volume based on 6 inch depth.

CRICKET MOUNTAIN PROJECT - BIG SAGE

Road Regrade Volumes

Spreadsheet D1

Revised: 12/2/2013

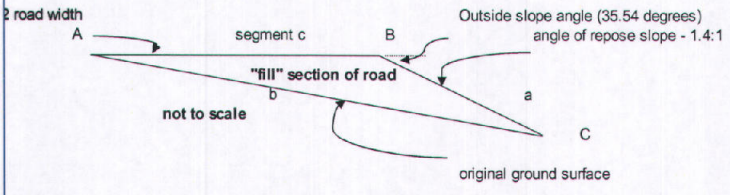
Input Parameters

Outside slope	35.54 degrees	1.4 slope

Segment Length (feet)	Segment Width (feet)	Section Original Ground Surface Slope	Slope Angle A (degrees)	Crest Angle B (degrees)	Intersection Angle C (degrees)	Original surface segment length (feet)	Fill Triangle Area (1) (square feet)	Segment Acres	Total Segment Width (feet) (2)	Segment Regrade Volume (cubic feet)	Segment Regrade Volume (cubic yards)
Roads:											
1,500	175	25.0%	14.04	144.46	21.50	138.76	1,472.4	9.27	269.2	2,208,534	81,798
1,000	350	0.0%	0.00	144.46	35.54	175.00	0.0	8.03	350.0	0	0
400	175	25.0%	14.04	144.46	21.50	138.76	1,472.4	2.47	269.2	588,942	21,813
Roads:											
500	200	12.5%	7.13	144.46	28.41	122.16	757.6	2.78	242.4	378,788	14,029
11,586	100	20.0%	11.31	144.46	24.23	70.82	347.2	36.94	138.9	4,022,917	148,997
Roads:											
4,400	80	20.0%	11.31	144.46	24.23	56.66	222.2	11.22	111.1	977,778	36,214
2,250	80	0.0%	0.00	144.46	35.54	40.00	0.0	4.13	80.0	0	0
											0
								74.84			**302,850**

(1) The (triangle representing the) fill portion of a road cross-section will be placed back into the cut portion of the road (not shown) to return to original contour. The determination of that area represents the sum of the earthmoving required for that segment.

(2) Roughly approximated by the projection of segment b (the original ground surface) times two sides (the width of the cut half of the road is slightly overstated).



A = atan (original slope)
B = 180 degrees - atan (1.4/1)
C = 180 - A - B

states that: $\frac{\text{Sin A}}{a}$ $\frac{\text{Sin B}}{b}$ $\frac{\text{Sin C}}{c}$ are all equivalent

CRICKET MOUNTAIN PROJECT - MISC. ROADS

Haul/Access Roads

Spreadsheet D

Facility Name	Acres
Access Road to Dolomite Permit Area	0.6
Access Road Past Dolomite Permit Area	2.3
Access Road to Poison Mountain Permit Area	1.7
Access Road to Fingers & Flat Iron Permit Areas - S	1.8
Access Road to Fingers & Flat Iron Permit Areas - S	3.5
Total	9.9

Revised: 12/10/2012

	Earthwork			Revegetation	TOTAL
	Contour/Regrade	Growth Media Placement	Rip	Seed	
Equipment	(1)	(2) & (5)	(3)	(4)	-
Quantity	7,981 CY	1,936 CY (7)	9.9 AC	9.9 AC	-
Production Rate	1,042 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	8 HR	3 HR	7 HR	8 HR	-
Unit Cost					
Equipment	182.90 $/hr	1,069.41 $/hr	182.90 $/hr	$0.00 $/hr	-
Labor	42.89 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$159.70	$90	-
Cost/Unit Volume ($/cy)	$0.23	$2.12	-	-	-
Equipment Cost	$1,463	$3,208	$1,280	$0	$5,952
Labor Cost	$343	$901	$300	$107	$1,652
Seed Cost	$0	$0	$0	$787	$787
TOTAL COSTS	$1,806	$4,109	$1,581	$894	**$8,390**

Manpower Sub-total		Equipment Sub-total		Material Costs			
Earthwork	$1,544	Earthwork	$5,952	Earthwork	$0	Total Cost ($/AC):	$847
Revegetation	$107	Revegetation	$0	Revegetation	$787	9.9 plan view acres	

(1) D9R Dozer, 1 each; 16H Motor Grader, 1 each.
(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(3) D9R Dozer, 1 each.
(4) Broadcast Seeding
(5) Growth media placement volume based on 6 inch depth.

CRICKET MOUNTAIN PROJECT - MISC. ROADS

Road Regrade Volumes

Spreadsheet D1

Revised: ########

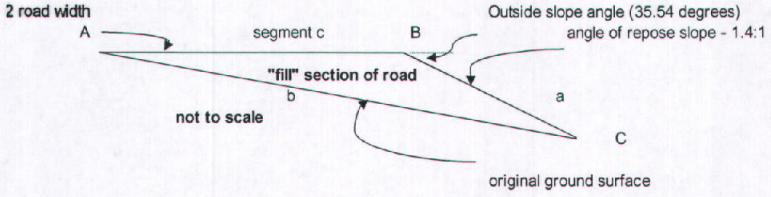
Input Parameters

Outside slope	35.54 degrees	1.4 slope

Segment Length (feet)	Segment Width (feet)	Section Original Ground Surface Slope	Slope Angle A (degrees)	Crest Angle B (degrees)	Intersection Angle C (degrees)	Original surface segment length (feet)	Fill Triangle Area (1) (square feet)	Segment Acres	Total Segment Width (feet) (2)	Segment Regrade Volume (cubic feet)	Segment Regrade Volume (cubic yards)
305	80	5.0%	2.86	144.46	32.68	43.06	43.0	0.60	86.0	13,118	486
1,165	80	5.0%	2.86	144.46	32.68	43.06	43.0	2.30	86.0	50,108	1,856
860	80	5.0%	2.86	144.46	32.68	43.06	43.0	1.70	86.0	36,989	1,370
910	80	5.0%	2.86	144.46	32.68	43.06	43.0	1.80	86.0	39,140	1,450
1,770	80	5.0%	2.86	144.46	32.68	43.06	43.0	3.50	86.0	76,129	2,820
								9.90			**7,981**

(1) The (triangle representing the) fill portion of a road cross-section will be placed back into the cut portion of the road (not shown) to return to original contour. The determination of that area represents the sum of the earthmoving required for that segment.

(2) Roughly approximated by the projection of segment b (the original ground surface) times two sides (the width of the cut half of the road is slightly overstated).



A = atan (original slope)
B = 180 degrees - atan (1.4/1)
C = 180 - A - B

s states that: $\frac{\text{Sin A}}{a}$ $\frac{\text{Sin B}}{b}$ $\frac{\text{Sin C}}{c}$ are all equivalent

Then b = (sin B / Sin C) * c

The law of sines further states that the area of the triangle = 0.5 * cb sin A

CRICKET MOUNTAIN PROJECT - POISON MOUNTAIN PERMIT AREA

Miscellaneous

Spreadsheet E

SUMMARY	Structures	Maintenance	Monitoring	Conveyors	Waste Removal	TOTAL
Equipment	$26,346		$503	$1,169		$28,018
Labor	$26,346	$8,707	$11,454	$1,353		$47,860
Materials		$2,177			$5,310	$7,487
TOTAL COST	$52,692	$10,883	$11,957	$2,522	$5,310	$83,365

A) STRUCTURE DEMOLITION AND DISPOSAL FACILITY	LENGTH	WIDTH	HEIGHT	VOL (CU. FT)	UNIT COST	COST	SOURCE
PIPELINES - water supply (3/4 inch diameter PVC)	100				$1.21	$121	RS Means 2009, 024113-38-1600, Heavy Construction Cost Data.
PIPELINES - water supply (2 inch diameter PVC)	100				$1.21	$121	RS Means 2009, 024113-38-1600, Heavy Construction Cost Data.
POWERLINES			1.40 miles		$22,500	$31,534	Sierra Pacific Power, 2008 estimate
SUBSTATIONS (per unit)			1 substation		$18,750	$18,750	Sierra Pacific Power, 2004, adjusted to 2008.
MANWAY ACCESS CULVERT	80		8 ft. diameter		$361	$361	**RS Means 2009, 130505-75-0540, Heavy Construction Cost Data - similar to remov**
DIESEL FUEL STORAGE	Qty:	2	10,000	gallon capacity	$361	$722	RS Means 2009, 130505-75-0540, Heavy Construction Cost Data.
WATER STORAGE	Qty:	3	10,000	gallon capacity	$361	$1,083	RS Means 2009, 130505-75-0540, Heavy Construction Cost Data.
TOTAL						$52,692	*Assumed to be 1/2 equipment and 1/2 labor

B) REVEGETATION MONITORING AND MAINTENANCE - *Costs for Poison Mountain, Flat Iron, Dolomite, Allsop, Fingers, and Big Sage combined.

MONITORING

ASSUMES A RANGE SCIENTIST AT $95.45/HOUR FOR 40 HOURS PER YEAR FOR 3 YEARS: $ 11,454

Truck / travel cost: 8 hrs travel time per roundtrip from Salt Lake City; 1 trip per yr. for 3 yrs. $ 503

Truck cost @ $20.95/hr ($17.88/hr rental; $3.05/hr fuel/lube/wear)

MAINTENANCE

PERCENTAGE OF TOTAL VEGETATION AREA REQUIRING REV: 10% *Based on reclamation experience at the Cricket Mountain Mine.

Total Vegetation Acres	Acres to Reveg	Cost Per Acre	TOTAL REVEG COST:
1369.8	137.0	$79	$10,883

*Assume 20% of maintenance cost is for materials. 80% is for labor. Assume hand-seeding.

C) WASTE REMOVAL

SOLID WASTE

Dumpster Delivery	$75.00	each
Haul	$220.00	each
Dumpster Rent per month	$75.00	each
Disposal Fee per ton	$75.00	each
Off-site Solid Waste Disposal	30	cy
Number of Dumpsters	1	
Months of Dumpster Rental	3	
Number of Off-site Dumpster Loads	1	
Materials Cost	$1,270.00	includes all fees

RS Means 2009 Heavy Construction Cost Data, 024119-23-0910 through 024119-23-0950

*Assumes 30 cy, 10 ton rolloff dumpster used.

HAZARDOUS WASTE

Truck (5,000 gal) ($/hr)	$	178.00
Waste Oil (gal)		4,000
Haul to nearby facilities (no.		1
Distance to facilities (mi)		7
Travel Time to facilities (hr)		0.3
Truck Time at Site (hr)		4
Total Truck Time (hr)		4.3
Materials Cost	$	765.40

RS Means 2009 Heavy Construction Cost Data, 028120-3120

*Transport waste oil from site to nearby facilities.

HYDROCARBON CONTAMINATED SOILS (HCS)

HCS disposal fee (cy)	$	131.00
Amt. of HCS (cy)		25
Materials Cost	$	3,275.00

RS Means 2009 Heavy Construction Cost Data, 026510-30-1110

TOTAL MATERIALS COST $5,310.40

D) CONVEYOR REMOVAL

Section	Length	Crane Hours	Rounded Hours
Total Conveyor Length	700	14.00	14
Total	**700**	**14.00**	**14.0**

70-ton crane with operator

Crane hours calculated @ 2 hours per 100 ft section, with a minimum of two hours per section

Crane hours rounded up to nearest whole hour

Estimated four laborers to assist with demolition.

Conveyor will have substantial scrap or resale value.

Dismantled conveyors will be removed from site by scrap dealer or purchaser on their trucks.

Conveyor footing removal covered in Spreadsheet F.

Costs are as follows:

Crane	Operator	Laborers x 4
	$42.89	$53.75

Dismantling Costs	
Labor	$1,353
Equipment	$1,169
Total	**$2,522**

CRICKET MOUNTAIN PROJECT - DOLOMITE PERMIT AREA

Miscellaneous

Spreadsheet E

SUMMARY	Culverts	TOTAL
Equipment	$256	$256
Labor	$279	$279
Materials		$0
TOTAL COST	**$535**	**$535**

A) CULVERTS

CULVERT REMOVAL	No. Culverts	$ equipment/culvert	$ labor/culvert	TOTAL CULVERT COST:
(2 laborers, 1 operator, and CAT 325 excavator)	1	$ 255.76	$ 279.07	$ 534.83

Assume 4 hours per culvert based on RS Means Heavy Construction, 2009, removal rates for 36 inch diameter culvert, 024113-40-0180.

CRICKET MOUNTAIN PROJECT - ALLSOP PERMIT AREA

Miscellaneous

Spreadsheet E

SUMMARY	Culverts	Stormwater	TOTAL
Equipment	$767	$270	$1,037
Labor	$837	$172	$1,009
Materials		$36	$36
TOTAL COST	**$1,604**		**$2,082**

A) CULVERTS

CULVERT REMOVAL	No. Culverts	$ equipment/culve	$ labor/culvert	TOTAL CULVERT COST:
(2 laborers, 1 operator, and CAT 325 excavator)	3	$ 255.76	$ 279.07	$ 1,604.49

Assume 4 hours per culvert based on RS Means Heavy Construction, 2009, removal rates for 36 inch diameter culvert, 024113-40-0180.

C) STORMWATER CONTROLS

Berm Length (ft)	1,500		
Berm Top Width (ft)	1		
Berm Height (ft)	3		
Berm Sideslope Angle (_H:1V)	2		
Recontour Material - CAT 325 Excavator (CY)	1,167	Labor Cost ($)	$167.29
Hourly Production (CY/hr)	299	Equipment Cost ($)	$249.36
Recontour Time (hr)	3.9		
Revegetation Acres	0.45	Material Cost ($)	$35.57
Revegetation Production Rate (acre/hr)	1.4	Labor Cost ($)	$4.33
Revegetation Time (hr)	0.32	Equipment Cost ($)	$20.78
		Total Material Cost ($)	$35.57
		Total Labor Cost ($)	$171.62
		Total Equipment Cost ($)	$270.14
		TOTAL	$ 477.33

CRICKET MOUNTAIN PROJECT - FINGERS PERMIT AREA

Miscellaneous

Spreadsheet E

SUMMARY	Culverts	TOTAL
Equipment	$512	$512
Labor	$558	$558
Materials		$0
TOTAL COST	**$1,070**	**$1,070**

A) CULVERTS

CULVERT REMOVAL	No. Culverts	$ equipment/culvert	$ labor/culvert	TOTAL CULVERT COST:
(2 laborers, 1 operator, and CAT 325 CL excavator)	2	$ 255.76	$ 279.07	$ 1,069.66

Assume 4 hours per culvert based on RS Means Heavy Construction, 2009, removal rates for 36 inch diameter culvert, 024113-40-0180.

CRICKET MOUNTAIN PROJECT - BIG SAGE

Miscellaneous — **Spreadsheet E**

SUMMARY	Structures	Culverts	Conveyors	Stormwater Controls	Waste Removal	TOTAL
Equipment	$13,747	$9,207	$7,266	$6,468		$36,688
Labor	$13,747	$18,530	$285	$1,497		$34,059
Materials			$261		$5,310	$5,591
TOTAL COST	$27,494	$27,738	$7,550	$8,248	$5,310	$76,338

A) STRUCTURE DEMOLITION AND DISPOSAL	LENGTH	WIDTH	HEIGHT	VOL (CU. FT)	UNIT COST	COST	SOURCE
FACILITY							
PIPELINES - water supply (2 inch diameter PVC)	750				$1.21	$908	RS Means 2009, 024113-36-1600, Heavy Construction Cost Data.
PIPELINES - water supply (3 inch diameter PVC)	2,000				$1.21	$2,420	RS Means 2009, 024113-36-1600, Heavy Construction Cost Data.
POWERLINES			0.13 miles		$22,500	$2,925	Sierra Pacific Power, 2008 estimate
SUBSTATIONS (per unit)			1 substation		$18,750	$18,750	Sierra Pacific Power, 2004, adjusted to 2008.
DIESEL FUEL STORAGE	Qty:	1	40,000 gallon capacity		$361	$361	RS Means 2009, 130505-75-0540, Heavy Construction Cost Data.
GASOLINE FUEL STORAGE	Qty:	1	500 gallon capacity		$753	$753	RS Means 2009, 130505-75-0520, Heavy Construction Cost Data.
EXPLOSIVES MAGAZINES	20	8	8	1,280	$0.23	$294	RS Means 2009, 024116-13-0020, Heavy Construction Cost Data.
WATER STORAGE	Qty:	3	20,000 gallon capacity		$361	$1,083	RS Means 2009, 130505-75-0540, Heavy Construction Cost Data.
TOTAL						$27,494	*Assumed to be 1/2 equipment and 1/2 labor

B) CULVERTS

CULVERT REMOVAL	No. Culverts	$ equipment/culvert	$ labor/culvert	TOTAL CULVERT COST:
(2 laborers, 1 operator, 1 CAT 325 Excavator)	12	$767.27	$ 1,544.19	$ 27,737.55

Assume 4 hours per culvert based on RS Means Heavy Construction, 2009, removal rates for 36 inch diameter culvert, 024113-40-0160.

C) WASTE REMOVAL

SOLID WASTE			HAZARDOUS WASTE			HYDROCARBON CONTAMINATED SOILS (HCS)		
Dumpster Delivery	$75.00	each	Truck (5,000 gal) ($/hr)	$	178.00	HCS disposal fee (cy)	$	131.00
Haul	$220.00	each	Waste Oil (gal)		4,000	Amt. of HCS (cy)		25
Dumpster Rent per month	$75.00	each	Haul to nearby facilities		1			
Disposal Fee per ton	$75.00	each	Distance to facilities (m		7			
			Travel Time to facilities		0.3			
Off-site Solid Waste Disposal	30	cy	Truck Time at Site (hr)		4			
Number of Dumpsters	1		Total Truck Time (hr)		4.3			
Months of Dumpster Rental	3							
Number of Off-site Dumpster Loads	1							
Materials Cost	$1,270.00	includes all fees	Materials Cost	$	785.40	Materials Cost	$	3,275.00
RS Means 2009 Heavy Construction Cost Data, 024119-23-0910 through 024119-23-0950			RS Means 2009 Heavy Construction Cost Data, 028120 3120			RS Means 2009 Heavy Construction Cost Data, 026510-30-1110		
*Assumes 30 cy, 10 ton rolloff dumpster used.			*Transport waste oil from site to nearby facilities.					
						TOTAL MATERIALS COST		$5,310.40

D) STORMWATER CONTROLS (Spreadsheet E continued)

BERMS	
Berm Length (ft)	1,640
Berm Top Width (ft)	1
Berm Height (ft)	3
Berm Sideslope Angle (_H:1V)	2
RECONTOUR	
Recontour Material - CAT 325CL Excavator (CY)	1,276
Hourly Production (CY/hr)	298.8
Recontour Time (hr)	4.3
Labor Cost ($)	$184.44
Equipment Cost ($)	$274.94
REVEGETATION	
Revegetation Acres	0.5
Revegetation Production Rate (acre/hr)	1.4
Revegetation Time (hr)	0.4
Material Cost ($)	$38.89
Labor Cost ($)	$4.73
Equipment Cost ($)	$22.72

PONDS	
Length (ft)	295
Bottom Width (ft)	283
Depth (ft)	6.6
Pond Sideslope Angle (_H:1V)	3.0
RECONTOUR	
Recontour Material - CAT D10R Dozer (CY)	21,835
Hourly Production (CY/hr)	991.2
Recontour Time (hr)	22.0
Labor Cost ($)	$943.67
Equipment Cost ($)	$5,530.37
REVEGETATION	
Revegetation Acres	2.2
Revegetation Production Rate (acre/hr)	1.4
Revegetation Time (hr)	1.6
Material Cost ($)	$173.59
Labor Cost ($)	$21.13
Equipment Cost ($)	$101.42

DIVERSION DITCHES			
Diversion Length (ft)	3,740		
Ditch Bottom Width (ft)	2		
Diversion Depth (ft)	2		
Sideslope Angle (_H:1V)	2		
	1,662		
	298.8		
	5.6		
	$240.21		
	$358.06		
	0.9		
	1.4		
	0.6		
	$68.22		
	$8.30		
	$39.86		

SWALE			
Swale Length (ft)	985		
Swale Bottom Width (ft)	4		
Swale Depth (ft)	2		
Sideslope Angle (_H:1V)	2.5		
EXCAVATE			
CAT 325CL Excavator (CY)	657		
Hourly Production (CY/hr)	298.8		
Excavation Time (hr)	2.2		
Labor Cost ($)	$94.37		
Equipment Cost ($)	$140.67	**Total Material Cost ($)**	**$280.69**
		Total Labor Cost ($)	**$1,496.85**
		Total Equipment Cost ($)	**$6,468.03**
		TOTAL $	**8,245.58**

E) CONVEYOR REMOVAL (Spreadsheet E continued)					
Section	**Length**		**Crane Hours**	**Rounded Hours**	
Truck dump to primary pile	460		9.20	10	
Primary pile to screening tower	566		11.32	12	
Screening tower to secondary crusher	230		4.60	5	
Secondary crusher to screening tower	230		4.60	5	
Screening tower to coarse pile	440		8.80	9	
Screening tower to medium pile	430		8.60	9	
Screening tower to fines screener	226		4.52	5	
Fines screener to large-fines pile	432		8.64	9	
Fines screener to fines pile	202		4.04	5	
Coarse pile reclaim	261		5.22	6	
Medium pile reclaim	264		5.28	6	
Large-fines pile reclaim	261		5.22	6	
Total	**4002**		**80.04**	**87.0**	
70-ton crane with operator					
Crane hours calculated @ 2 hours per 100 ft section, with a minimun of two hours per section					
Crane hours rounded up to nearest whole hour					
Estimated four laborers to assist with demolition.					
Conveyor will have substantial scrap or resale value.					
Dismantled conveyors will be removed from site by scrap dealer or purchaser on their trucks.					
Conveyor footing removal covered in Spreadsheet F.					
Costs are as follows:					
Crane	Operator		Laborers x 4		
$83.51	$0.33		$2.94		
Dismantling Costs					
Labor	$285				
Equipment	$7,266				
Total	$7,550				

CRICKET MOUNTAIN PROJECT - POISON MOUNTAIN PERMIT AREA

Concrete Foundation Demolition

Spreadsheet F

Foundation Number	Foundation Name	Foundation Type *	Estimated Volume (CY)	Estimated unit demo cost		Extended est'd cost		TOTAL ($)
				labor ($/CY)	equipment ($/CY)	labor ($)	equipment ($)	
1	Crusher Area	SOG	120	1.16	6.04	$139	$725	$864
2	Screen Area	SOG	30	1.16	6.04	$35	$183	$218
3	Crusher Operator Station	SOG	7	1.16	6.04	$8	$44	$52
4	Conveyor Bends	FTG	70	1.16	6.04	$81	$423	$504
5	Substation	SOG	11	1.16	6.04	$13	$66	$79
6	Maintenance Tent	SOG	111	1.16	6.04	$129	$671	$800
7	ANFO Silo	SOG	8	1.16	6.04	$9	$48	$58
8	Diesel Containment	SOG	32	1.16	6.04	$38	$196	$233
	TOTALS		**390**			**$453**	**$2,356**	**$2,809**

Notes:

Concrete demolition costs were calculated on the Productivity spreadsheet.

Rubblize concrete only. (Then, later, bury rubble under appx. 2' of topsoil and/or fines - see Spreadsheet B - Yards and Stockpiles)

* Foundation type abbreviations: SOG=slab on grade; FTG= footing; WALL= retaining wall

All foundations assumed to have reinforcing steel in the form of reinforcing bars.

Equipment: 1 Cat 385 hydraulic excavator with an 11,000 ft-lb hydraulic impact hammer. Estimated productivity: 73.9 cy/hr.

D10T used to knock down columns and retaining walls for burial.

CRICKET MOUNTAIN PROJECT - BIG SAGE

Concrete Foundation Demolition

Spreadsheet F

Foundation Number	Foundation Name	Foundation Type *	Estimated Volume (CY)	Estimated unit demo cost		Extended est'd cost		TOTAL ($)
				labor ($/CY)	equipment ($/CY)	labor ($)	equipment ($)	
1	Maintenance shop complex and warehouse	SOG	450	1.16	6.04	$522	$2,718	$3,240
2	ANFO Storage	SOG	45	1.16	6.04	$52	$272	$324
3	Truck Wash Pad	SOG	70	1.16	6.04	$81	$423	$504
Footings								
1	Primary Crusher	FTG	250	1.16	6.04	$290	$1,510	$1,800
2	Screen Tower	FTG	35	1.16	6.04	$41	$211	$252
3	Fines Screen Tower	FTG	10	1.16	6.04	$12	$60	$72
4	Secondary Crusher Tower	FTG	35	1.16	6.04	$41	$211	$252
5	Fuel Tank	FTG	20	1.16	6.04	$23	$121	$144
6	Water Tanks	FTG	4	1.16	6.04	$5	$25	$30
7	Conveyor Bends	FTG	400	1.16	6.04	$464	$2,416	$2,880
8	Misc. Items	FTG	75	1.16	6.04	$87	$453	$540
	TOTALS		1,394			**$1,618**	**$8,421**	**$10,039**

Notes:

- Concrete volumes were provided by the engineering firm designing the facilities and are subject to change.
- Concrete demolition costs were calculated on the Productivity spreadsheet.
- Rubblize concrete only. (Then, later, bury rubble under appx. 2' of topsoil and/or fines - see Spreadsheet B - Yards and Stockpiles)
- * Foundation type abbreviations: SOG=slab on grade; FTG= footing; WALL= retaining wall
- All foundations assumed to have reinforcing steel in the form of reinforcing bars.
- Equipment: 1 Cat 385 hydraulic excavator with an 11,000 ft-lb hydraulic impact hammer. Estimated productivity: 73.9 cy/hr.
- D10T used to knock down columns and retaining walls for burial.

CRICKET MOUNTAIN PROJECT - POISON MOUNTAIN

Building Demolition and Disposal

Spreadsheet G

SUMMARY	
Equipment	$25,853
Labor	$19,887
Materials	$0
TOTAL COST	**$45,740**

Building Number	Building Name	Length (ft)	Width (ft)	Plan View Area (sq. ft.)	Height (ft)	Volume (cu. ft.)
1	Maintenance Tent	90	50	4,500	30	135,000
2	Lunchroom	27	55	1,485	15	22,275
3	Storage Sheds	80	25	2,000	15	30,000
4	ANFO Silo	9	9	81	20	1,620
5	MCC Building	9	15	135	15	2,025
6	Explosives Magazine 1	20	8	160	15	2,400
7	Explosives Magazine 2	17	8	136	15	2,040
8	Explosives Magazine 3	26	9	234	15	3,510
	TOTAL			8,731		198,870

Building Number	Building Name	Means Unit Demo Cost labor ($/cf)	Means Unit Demo Cost equipment ($/cf)	Extended Demo Cost labor ($)	Extended Demo Cost equipment ($)	Total Demo & Disposal Costs ($)
1	Maintenance Tent	0.10	0.13	$13,500	$17,550	**$31,050**
2	Lunchroom	0.10	0.13	$2,228	$2,896	**$5,123**
3	Storage Sheds	0.10	0.13	$3,000	$3,900	**$6,900**
4	ANFO Silo	0.10	0.13	$162	$211	**$373**
5	MCC Building	0.10	0.13	$203	$263	**$466**
6	Explosives Magazine 1	0.10	0.13	$240	$312	**$552**
7	Explosives Magazine 2	0.10	0.13	$204	$265	**$469**
8	Explosives Magazine 3	0.10	0.13	$351	$456	**$807**
	TOTAL			$19,887	$25,853	**$45,740**

Note: Source of unit costs: RS Means Heavy Construction Cost Data 2009, 024116-13-0020, Structure Demolition, Building Demolition, includes haulage from site.

CRICKET MOUNTAIN PROJECT - BIG SAGE

Building Demolition and Disposal

Spreadsheet G

SUMMARY	
Equipment	$65,731
Labor	$50,562
Materials	$0
TOTAL COST	**$116,293**

Building Number	Building Name	Length (ft)	Width (ft)	Plan View Area (sq. ft.)	Height (ft)	Volume (cu. ft.)
1	Maintenance Shop Comp	100	72	7,200	50	360,000
2	Warehouse	60	60	3,600	20	72,000
3	ANFO Silo	9	9	81	20	1,620
4	ANFO Storage	60	60	3,600	20	72,000
	TOTAL			14,481		505,620

Building Number	Building Name	Means Unit Demo Cost labor ($/cf)	Means Unit Demo Cost equipment ($/cf)	Extended Demo Cost labor ($)	Extended Demo Cost equipment ($)	Total Demo & Disposal Costs ($)
1	Maintenance Shop Comp	0.10	0.13	$36,000	$46,800	**$82,800**
2	Warehouse	0.10	0.13	$7,200	$9,360	**$16,560**
3	ANFO Silo	0.10	0.13	$162	$211	**$373**
4	ANFO Storage	0.10	0.13	$7,200	$9,360	**$16,560**
	TOTAL			$50,562	$65,731	**$116,293**

Note: Source of unit costs: RS Means Heavy Construction Cost Data 2009, 024116-13-0020, Structure Demolition, Building Demolition, includes haulage from site

This amendment is being submitted in regards to the Cricket Mountain Mine, operated by Graymont Western US, Inc, file number M/027/006. The latest approved revision to M/027/006 is dated January 2010.

The previous permitted acreage for disturbance was 1,702.7 acres, with the partial surety acreage of 1311.2 acres. The previous full surety bond amount was $5,144,090, and the partial, or actual, surety was $3,885,790. The difference between the full surety and the partial surety was $1,258,299. The addition of the Big Sage road will increase the total surety to $5,369,990.

The Big Sage road project covers a total of 35.9 acres; this includes growth media piles placed next to the road and the increased width area noted in the easement. In accordance with the easement on file the road will have a running width of 100 feet and a total disturbance of approximately 120 feet, with a length of approximately 11,586 feet.

The total bond increase just for the road; which includes the eight additional culverts, is $225,900 with $201,244 for the road and $24,656 for the culverts. A map of the proposed road construction has been included as well as the proposed study area for wildlife. The increased cost of the culverts was calculated by increasing the number of culverts in the spreadsheet used to calculate equipment and labor costs for the road.

Construction of the Big Sage road will be performed in the manner specified on page 16 of the Notice of Intention to Amend Mining Operations: Big Sage document submitted previously to the state with further elaboration in the easement document. The road will be reclaimed as noted in the NOI on page 33, and in accordance with the Utah Administrative Code R647.

The road will be treated in the same manner as other haul roads for dust suppression, as noted in the Fugitive Dust Control plan submitted in the NOI documents. The specific treatment of the road for dust is detailed on page 8 of the Fugitive Dust Control plan. In addition a wildlife and raptor survey will be completed in the area expected to be disturbed by the road, with a buffer area included, and a study report will be provided in future documentation. The raptor study will be conducted at an extent of one half mile from the road centerline.

The following are the calculations for the total Big Sage road.

CRICKET MOUNTAIN PROJECT - BIG SAGE

Haul/Access Roads — **Spreadsheet D**

Facility Name	Acres
Haul/Access Roads	19.8
Interior Roads	15.3
	35.9
Total	71

Revised: 2/26/2013

* Includes 10.7 acres from the Facility Area and 4.6 acres from the quarry areas.

	Earthwork			Revegetation	
	Contour/Regrade	Growth Media Replacement	Rip/Scarify	Seed	TOTAL
Equipment	(1)	(2) & (5)	(3)	(4)	-
Quantity	231,617 CY	57,273 CY (7)	71 AC	71 AC	-
Production Rate	716 CY/HR	624 CY/HR	1.39 AC/HR	1.4 AC/HR	-
Time Required	324 HR	92 HR	51 HR	52 HR	-
Unit Cost					
Equipment	337.56 $/hr	1,069.41 $/hr	182.90 $/hr	$64.50 $/hr	-
Labor	85.79 $/hr	300.26 $/hr	42.89 $/hr	$13.44 $/hr	-
Seed	0.00 $/ac	0.00 $/ac	0.00 $/ac	$79.45 $/ac	-
Cost/Unit Area ($/ac)	-	-	$162.18	$137	-
Cost/Unit Volume ($/cy)	$0.59	$2.20	-	-	-
Equipment Cost	$109,369	$98,385	$9,328	$3,354	$220,436
Labor Cost	$27,795	$27,624	$2,188	$699	$58,306
Seed Cost	$0	$0	$0	$5,641	$5,641
TOTAL COSTS	$137,164	$126,009	$11,515	$9,694	**$284,383**

Manpower Sub-total		Equipment Sub-total		Material Costs			
Earthwork	$57,607	Earthwork	$217,082	Earthwork		Total Cost ($/AC):	$4,005
Revegetation	$699	Revegetation	$3,354	Revegetation	$5,641	71 plan view acres	

(1) D9R Dozer, 1 each; 16H Motor Grader, 1 each.
(2) 631 Scraper, 4 each; 16H Motor Grader, 1 each; 8000 gal Water Wagon, 1 each; D9R Dozer, 1 each.
(3) D9R Dozer, 1 each.
(4) Broadcast Seeding
(5) Growth media placement volume based on 6 inch depth.

New Culvert Cost

B) CULVERTS					
CULVERT REMOVAL	No. Culverts	$ equipment/culvert	$ labor/culvert	TOTAL CULVERT COST:	
(2 laborers, 1 operator, 1 CAT 325 Excavator)	12	$767.27	$ 1,544.19	$	27,737.55

Assume 4 hours per culvert based on RS Means Heavy Construction, 2009, removal rates for 36 inch diameter culvert, 024113-40-0180.

Old Culvert Cost

B) CULVERTS					
CULVERT REMOVAL	No. Culverts	$ equipment/culvert	$ labor/culvert	TOTAL CULVERT COST:	
(2 laborers, 1 operator, 1 CAT 325 Excavator)	4	$255.76	$ 514.73	$	3,081.95

Assume 4 hours per culvert based on RS Means Heavy Construction, 2009, removal rates for 36 inch diameter culvert, 024113-40-0180.

Big Sage haul road volume calculations.

CRICKET MOUNTAIN PROJECT - BIG SAGE

Road Regrade Volumes

Spreadsheet D1

Revised: 2/26/2013

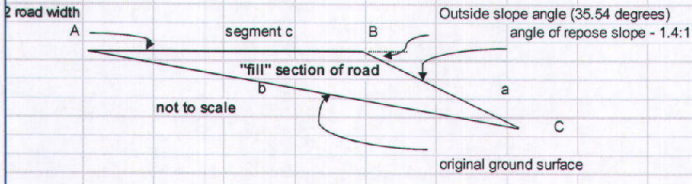
Input Parameters

Outside slope	35.54 degrees	1.4 slope

Segment Length (feet)	Segment Width (feet)	Section Original Ground Surface Slope	Slope Angle A (degrees)	Crest Angle B (degrees)	Intersection Angle C (degrees)	Original surface segment length (feet)	Fill Triangle Area (1) (square feet)	Segment Acres	Total Segment Width (feet) (2)	Segment Regrade Volume (cubic feet)	Segment Regrade Volume (cubic yards)
Roads:											
1,500	175	25.0%	14.04	144.46	21.50	138.76	1,472.4	9.27	269.2	2,208,534	81,798
1,000	350	0.0%	0.00	144.46	35.54	175.00	0.0	8.03	350.0	0	0
400	175	25.0%	14.04	144.46	21.50	138.76	1,472.4	2.47	269.2	588,942	21,813
Roads:											
500	200	12.5%	7.13	144.46	28.41	122.16	757.6	2.78	242.4	378,788	14,029
11,086	100	12.5%	7.13	144.46	28.41	61.08	189.4	30.85	121.2	2,099,621	77,764
Roads:											
4,400	80	20.0%	11.31	144.46	24.23	56.66	222.2	11.22	111.1	977,778	36,214
2,250	80	0.0%	0.00	144.46	35.54	40.00	0.0	4.13	80.0	0	0
								68.75			**231,617**

(1) The (triangle representing the) fill portion of a road cross-section will be placed back into the cut portion of the road (not shown) to return to original contour. The determination of that area represents the sum of the earthmoving required for that segment.

(2) Roughly approximated by the projection of segment b (the original ground surface) times two sides (the width of the cut half of the road is slightly overstated).



A = atan (original slope)
B = 180 degrees - atan (1.4/1)
C = 180 - A - B

states that: $\frac{\text{Sin A}}{a}$ $\frac{\text{Sin B}}{b}$ $\frac{\text{Sin C}}{c}$ are all equivalent

Then b = (sin B / Sin C) * c

The law of sines further states that the area of the triangle = 0.5 * cb sin A

New Total Surety Amount

GRAYMONT WESTERN U.S., INC.
CRICKET MOUNTAIN PROJECT
RECLAMATION COST SUMMARY

	SPREADSHEET/PROJECT COMPONENT	EQUIPMENT	LABOR	MATERIALS	TOTALS	PLAN VIEW ACRES
A	Overburden/Fines Piles	$558,075	$153,277	$26,908	$738,259	452.0
B	Yards and Stockpiles	$305,371	$81,150	$15,120	$401,641	190.3
C	Quarries	$1,276,478	$352,973	$65,124	$1,694,575	993.7
D	Haul/Access Roads	$300,469	$79,418	$7,977	$387,864	100.4
E	Miscellaneous	$66,511	$82,828	$12,880	$162,218	2.2
F	Concrete Foundation Demolition	$10,777	$2,071	$0	$12,848	NA
G	Building Demolition and Disposal	$91,584	$70,449	$0	$162,033	NA
	Subtotal	$2,609,265	$822,166	$128,009	$3,559,438	1738.6
	General Site Clean-Up (1% of total: RS Means, 2007, 017413.200040, Site Work and Landscape Cost Data, 26th Edition)				$35,594	
	Mobilization/Demobilization				$118,656	
	Total Direct Costs				$3,713,688	
	Contractor Overhead and Profit (10%)				$371,369	
	Contingency (10%)				$371,369	
	Total with Indirect Costs				$4,456,426	
	Year 1 Escalation (3.8%)				$169,344	
	Year 2 Escalation (3.8%)				$175,779	
	Year 3 Escalation (3.8%)				$182,459	
	Year 4 Escalation (3.8%)				$189,392	
	Year 5 Escalation (3.8%)				$196,589	
	GRAND TOTAL				$5,369,990	1,738.6
					$/acre	$3,088.71
	Total Proposed Bond				$5,369,990	

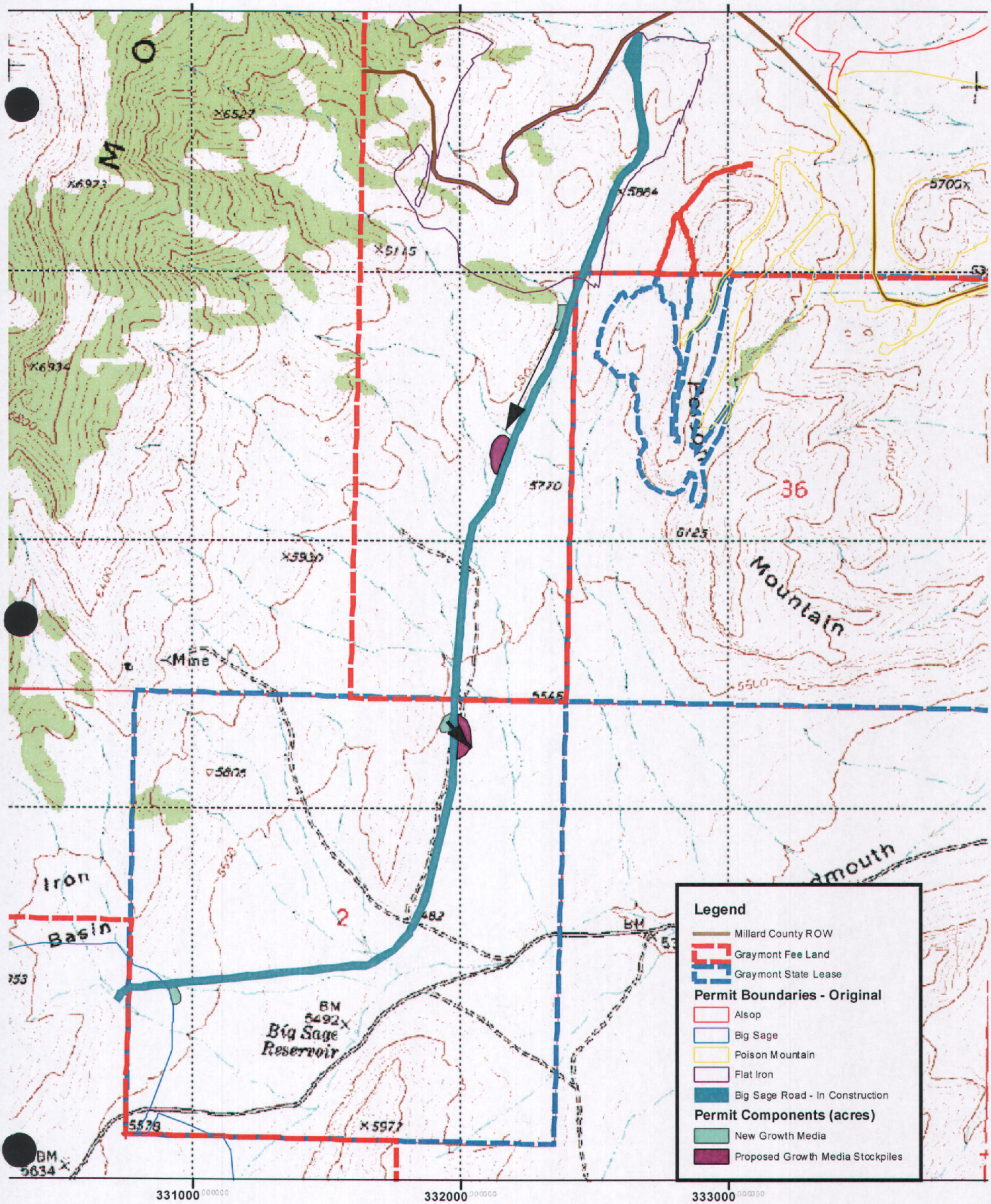


Figure 1: Big Sage Road Updated Growth Media Stockpiles

UTM NAD 1927 Zone 12 North

Topograpic Base Map-USGS 7.5 minute series

October 11, 2013

Graymont Western US Inc.

1:18,000

N

0 0.125 0.25 0.5 0.75 1 Miles